

Original Correspondence.

THE STEAM COAL QUESTION.—No. II.

SIR.—Although my present letter to you, on the very important subject of the Steam Coal Question, will be brief, I have added a number to the heading; with the intention, by your sanction, of continuing the series as occasion may offer.

Your leading article of last week ought to elicit remarks from whoever may differ with you in your examination of the question. I do not myself entirely concur with it, on the ground that all mention of many well-known kinds of steam fuel is at present omitted by you; whilst it is very likely that, as you proceed their merits will be duly acknowledged and compared.

I am, at this time, chiefly anxious to extend my testimony in support of your primary proposition of the varying proportions of combustible gases to be found in different sorts of coal, and which is as justly applicable to the more general term of *carbonaceous fuel*.

The screw-steamer *Sydney Hall*, Capt. Mitchell, belonging to W. N. De Mattos, Esq., Jeffrey's-square, St. Mary Axe, has just now returned from the Mediterranean, and during her passages, out and home, ample opportunity was given, and availed of, to see how far my "instruments," the patent Regulating Air-Doors with which her boilers are fitted, could be "rightly used, as required." She had previously been, in professional parlance, *short of steam*; but that deficiency my invention has made good by yielding something better than an *increased average pressure* of 3 lbs. throughout the voyage, with several varieties of fuel—Welch and West Hartley, separately used; these two mixed together; and Warlich's Patent Fuel. Under the direction of her scientific commander, the different descriptions of fuel so used were found to produce very similar, if not precisely equal, results; care having been taken upon each trial to adjust the admission of air "as required" by the peculiar properties of the fuel changed in succession for that which had been previously tried.

In the ensuing number of the *Mining Journal* I dare say I shall be able to publish a copy of the report with which I am promised by the owner of the *Sydney Hall*, a gentleman to whom other steam-ship proprietors are not less indebted, than I am, for having my doors tested with such varieties of steam fuel. The facility of using all sorts of coal *beneficially* is of the utmost consequence on long voyages; at the same time that *more steam is alike important*, however short the passages may be.

1, Fish-street Hill, City, May 20.

J. LEE STEVENS.

THE STEAM-COAL QUESTION.

SIR.—In your editorial remarks on this subject, last week, you point out that, on comparing the reports of Sir H. De la Beche and Dr. Lyon Playfair with those of the United States Government and others on the same subject, their general truthfulness must be admitted. Certainly there is a great general similarity between the results put forward in both reports, but I believe that on careful examination of the details they will both be

found to be incorrect, that they contain internal evidence of the improper character of the means adopted for estimating the relative value of different kinds of coal, and that the individual results of the experimental trials are so discordant as to be unfit for any general conclusion being drawn from them.

It is indeed true that in these reports we find all the details of the exact manner and condition under which the experiments were performed; there is the external temperature of the atmosphere; the "dead point observation;" the "much smoke" and considerable quantity of soot in the flues, sometimes indeed "flues choked with soot." And in contrast to this, the report of the Newcastle experiments, conducted by Messrs. Armstrong, Longridge, and Richardson, give us merely the results obtained, with only a very meagre account of the methods adopted, and nothing at all as to the details of the experiments and their results. This is much to be regretted, for several reasons. But in spite of this disadvantage, it is

well worthy of notice that the results of the Newcastle experiments relating to bituminous coal, such as that of the Hartley district, have just that relative proportion to the results relating to the anthracitic coals of the Welsh coal fields which is indicated by the *theoretical determinations* given in the Admiralty reports. Moreover, while there is this close relative approximation between the actual results obtained by the Newcastle experimenters and the theoretical determinations of the Admiralty reports as regards the different kinds of coal, the absolute magnitude of these two series of results are almost identical. On the contrary, however, the actual results given by the Admiralty reports, and their theoretical determinations, are not either absolutely or even relatively alike; they do not even approximate; they do not differ uniformly; they do not admit of any conclusion being drawn from them, except the very unsatisfactory one that the question of the best coal for marine boilers is not one whit nearer solution, and that it would have been less obscure had these experiments never been made, and their results never published.

When we come to examine the conditions under which the experiments were made, the only apparent difference is that in the Newcastle experiments care was taken to prevent the formation of smoke; while in the Admiralty experiments this was not done, and, worse still, the formation of smoke was in varying quantity. If the enquiry were to be thus limited, to what end were such large preparations and repeated grants of money by the Admiralty? A question of such a simple character might be settled without the aid of some dozen chemists.

There are probably many who will fail to perceive the propriety of such an investigation as that for determining the best coal for steam navigation being in any case confined to merely scientific results, especially when those results are of the kind not within the Admiralty reports on coal. Nor is it very easy to perceive why such an investigation, extending over some six years, and carried out with all the facilities of Government support, should be limited to the consideration of existing forms of boiler and grate, &c., without any regard to the efficiency and fitness of those arrangements, or any consideration as to the necessity for improvement. If the enquiry were to be thus limited, to what end were such large preparations and repeated grants of money by the Admiralty? A question of such a simple character might be settled without the aid of some dozen chemists.

But I contend that such a limited examination of this important question was by no means contemplated by Mr. Hume, when he suggested that it should be enquired into. The very reasons for which he urged this subject upon the consideration of the Government are sufficient evidence that very much more was intended than the mere *consumption* of so much coal under boiler, and the inference of its value from the amount of steam produced, regardless whether the coal was, or was not, properly burnt; whether it was fully rendered available for generating heat, and in producing its full equivalent of steam; or whether one half of the coal was not wasted, going up the chimney as smoke, not only uselessly, but as a source of serious inconveniences.

It is, indeed, singular that the facts pointed out in these Admiralty reports did not suggest to their authors the propriety of some further investigation. Thus, for instance, the coal which they pronounce to be the best as regards heating capability is invariably the worst as regards a very important character for steam coal—its liability to crush into small; while the bituminous coal, like West Hartley, &c., is very much less liable to this, owing to its greater hardness. This fact, together with the close approximation between the heating capabilities of these two kinds of coal, as indicated by calculation, might reasonably have been expected to induce a further examination as to whether the comparatively very low practical value or steam equivalent, indicated by the experiments with the latter kind of coal, was strictly correct, and whether it would not be possible to realise the full heating capability of this coal, which was so far preferable to Welsh coal in the important character of hardness. It has since been found to be very easy to effect this result, and the attempt to do so would have been a far more creditable feature of the Admiralty investigation than the similitude of speculation by which it is sought to furnish a plausible but specious explanation of the glaring discrepancy between the results of experiment and calculation.

It is to be regretted that the question of steam-coal is beginning to assume a party character, and to be made a bone of contention between the coal owners of different localities. I believe that this course, to the adoption of which the Admiralty reports have undoubtedly given rise, is both objectionable and unnecessary, as well as prejudicial to the true interests of both parties. As was well pointed out by Mr. Lee Stevens, last week, the value of fuel is determined by a number of circumstances, among which the cost arising from carriage is an important one, and, according to circumstances, it will doubtless be found that the coal fields of Wales and of the northern districts are capable of furnishing coal equally well suited for the requirements of steam navigation. The capabilities of the coal from these different localities is, on the average, much the same; the means, however, by which that capability is to be realised differ considerably, and

it comes to be merely a question of cost and convenience which is best to use in particular cases. That being determined, it is, as you justly remark, the work of the mechanical engineer to take the matter in hand, and show us how he can deal with materials the value of which he knows, but which differing in special characters, require an appropriate adaptation of the conditions of use, in order to render each kind fully effective.

May 17.

TRURO MINING SCHOOL.

SIR.—The unhappy fate of this institution was predicted by me more than twelve months ago, simply from the published curriculum and the apparent inexperience of the council whose high privilege it was to direct and control the teachers and students. I can well remember that some of the readers of this Journal approved of my remarks on the subjects taught and objects aimed at in the Truro Mining School, while others, again, disagreed with them, and almost ridiculed the idea of such an establishment failing in its praiseworthy attempt to disseminate scholastic learning amongst the untutored Cornish miners. It was hardly, then, to be expected that I could read the Cornwall correspondence of last week's Journal without considerable interest, and without reviewing again my published opinions respecting the elements which I deemed necessary to the success of such an institution.

It now appears that this renovator of the rusty mines is on its last legs, and struggling for its existence. It has quickly risen, culminated, and is now dimly shining in the distance. I cannot, however, join your respected Cornwall correspondent in his regret at the downfall of this mining school, because I sincerely believe that it lacks an element which is essential to success. What reply could be given to such questions as the following? Is it not the avowed purpose of this school to educate the select few, who can well afford to pay a costly fee? Can the Cornish workmen's sons accomplish this, unaided by deeds of cold and heartless charity? Will the honest workmen of Cornwall rejoice at the prospect of intellectual pauperism? Is it good policy, or consistent with the precepts of religion, to develop an encourage in the minds of workmen a spirit of dependence, or rather vassalage? Such important enquiries as these, I regret to state, have not received sufficient attention from our often-mentioned but still well-meaning statesmen; nor is there any public institution which cannot render an intelligent account of them can expect the warm sympathy and support of the Cornish miner. The Royal Institution of Truro is suggested as being the cause of failure, and if a similar school, with a large laboratory, could be established at Redruth, it might prosper in its attempts to convey elementary instruction to the working miners. It would be unsafe on my part to offer an opinion until the school is established, and the curriculum before the public; but I may remark that, whatever course is ultimately adopted, one thing must not be lost sight of—the miner must be sent to gather and bring to his aid the necessary amount and quality of the exact sciences. These subjects must not be thrust upon him, and he must not be weighed down to a useless speed with schoolmen's logic, which is frequently of very limited application.

The promoters of education in Cornwall will now see that the practical ability of the miner will not admit of him giving his support to an institution which ostensibly professes to teach practical science to practical miners, but which really teaches mining to schoolmasters and demagogues to miners. No systematic teaching of science apart from the practical duties of the mine will ever be available to the miners of Cornwall, and no educational establishment can permanently benefit them which requires propping up by the names of Members of Parliament. When the school, its contents, and subjects taught are of their own choice, then, and not till then, will the Cornish miner feel an abiding interest in its unvarying prosperity. I have no faith in dealing out education by charitable instalments—process which will deduct as much from the cultivation of self-dependence as the knowledge acquired will add to it. The people will endeavour to attain that which possesses a marketable value. Do the buyers of skill and labour attach any very great importance to abstract science? Philosophy is not, and I fear never will be, wedged by the masses of the people; it is the few only that are captivated by her charms.—May 18.

COAL MINER.

QUARTZ MINING IN CALIFORNIA.

SIR.—I consider that I have reason on my side when I say I differ very much from "A Cornish Miner" as to the causes of failure of gold mining in California, being one whose endeavours to make, after having proved, that gold could be obtained at a profitable rate, were not allowed to succeed. I will be charitable withal, but I must say that, had all the Cornishmen who came around me and my party, on our arrival in California in 1851, held the opinion that he now holds, much more satisfactory results would have been arrived at; for at last their then ignorant counsels prevailed, and the Merced Mines, which are now returning such good bonuses to their present adventurers, would have still been under the Nouveau Monde Company, who, it now appears, laid more visible the enclosed riches of what will be at no long date the most celebrated gold lodes in the world. We, of course, laid out the method of attack after the most approved rules, subsequent to a proper inspection and thorough belief in their great value being arrived at. That every inch of the lodes in the range of the Merced Mines cannot be expected to be equally rich every one must admit. Lodes are not found in all parts equally rich, neither in Cornwall, McLeò, Spain, nor Ireland, not forgetting Wales or Scotland.

The real desideratum appears to be what class of arrangement of works for reducing the quartz lode stuff, which is composed of—silica, 1815 lbs.; peroxide of iron, 166 lbs.; pyrites, 25 lbs.; and gold and silver, 3,100 lb. per 2000 lbs. of bulk, more or less, all through California, is to be the most suitable. Stamps of all classes have been tried, light and heavy, without success, unless the quartz is inordinately rich: the system has not answered under the most experienced hands. After spalling and crushing in a Cornish crusher to a certain fineness, then sieving and arranging into classes, per fire assays, made daily, I believe will do much, as I found that the hard part did not contain gold, on making trials to prove this point.

I have, however, confidence in Mr. Bursill's patent process, but from where the first large quantity of carbonate of soda required is to come for us all I am not satisfied, nor for Mr. Squires's process, which, as far as I know, is likewise carbonate of soda, used in combination with heat. Both systems will require heat, and "A Cornish Miner" knows how his countrymen have assisted the Americans to cut down trees, and what part of them alone was used when down; also as to what chance there is of its being replaced; while as yet there is none as to what chance there is of its being replaced.

As to "riotous living," I must say I saw no such thing; convivial parties, and a glass of count-house brewed to "sweethearts and wives." On Saturday evenings, are never considered by a true and manly heart "riotous," even with the addition of a whiff of tobacco, to keep the mosquitoes away. Let "One and All" stand up and state the truth; no one foresees that all our buildings and mining operations will cost seven times as much as in England. Even when tried in Old England, in "Lunnon town," on the borders of the dirty Father Thames, not forgetting the bye blows and overthrows at Frodsham and other places, although backed by the *Times* and the *Manchester Guardian*, who lent all their powerful assistance, not calling to our aid the other powerful "attractions" which were used, and they were no small "pumpkins," and brought out quite a percentage of gold to the winners, did they succeed? "No," saith Echo everywhere.

Will "A Cornish Miner" favour us with the estimate for building a reduction-works, to reduce therein 50 tons per diem of quartz, holding (say) 3 or 4 ozs. per ton. I will help him by stating that such cost in Mexico, a place five times cheaper than California, would be 60,000/., to 70,000/.; in Spain, seven times a cheaper place, the same amounts. In the first-named country roads are naturally ready made; in Spain they have to be made, as happens in California. Besides being a well-wisher to mining in California, I have lost everything I possessed in the attempt to assist it, and, therefore, will conclude "feelingly," and will not hide my name, having no cause to be ashamed of it.

London, May 18.

JOHN H. CLEMENT.

COALS AND THE COAL TRADE OF THE UNITED STATES.

SIR.—When I forwarded you the brief article on "Coal, and the Coal Trade," which appeared in your Journal of May 1, you kindly intimated that you would be pleased to receive other articles connected with the iron and coal interests of the United States, when I could furnish them.

The fact that my country possesses three-quarters of all the known coal in the world, and that in developing this she is increasing at the rate of 20 per cent. per annum, insures for us a glorious future. Let me refer to the bituminous coal west of the Allegheny Mountains. By far the most important bituminous coal field is that embedded in the western part of the states of Pennsylvania and Virginia, embracing a portion of Ohio, bordering on the Ohio river. The quantity contained in this patch is vast and inexhaustible, and its location being on the navigable waters of the Ohio and Great Kanawha, makes it one of the most important coal fields of the Union. The advantages of navigable streams on which a heavy article like coal may be floated to market are incalculable, and coal so situated is worth very much more than the same kind of coal located where it must be carried any considerable distance by rail. It is known that it can be floated on a river 1200 miles for the same expense which would carry it 100 miles by rail. The country to which a very large extent must be supplied with coal from Western Virginia and Pennsylvania is an empire already. From Pittsburgh to New Orleans the Ohio and Mississippi are 2000 miles long, and they wash ten states of the Union—Virginia, Ohio, Kentucky, Indiana, Illinois, Missouri, Tennessee, Arkansas, Mississippi, and Louisiana. The natural and inexhaustible wealth of this portion of the Union is almost incalculable. The fertility of its soil, sometimes several feet deep, its mines of coal, iron, copper, lead, and lime; its high prairie land, where thousands upon thousands of cattle, horses, and sheep may graze without restraint; its production of corn, wheat, cotton, rice, and sugar; its facilities for manufacturing; and above all, the fact that the valley is rapidly filling up with the best of all populations, give it an importance second to no other equal area. Half the population of the United States is now west of the Allegheny Mountains, and fully one-third of it in the ten states named, and new states are springing up still further west as if by magic; whilst civilisation in its best form, secured by republican institutions, united with industry and intelligence, is spreading over the whole region, to the very base of the Rocky Mountains. It requires no prophet to foretell the day when one hundred millions of people will dwell in that valley, Cincinnati, Louisville, Memphis, Natches, Vicksburg, and New Orleans, all large cities, besides more than a score of important towns, are situated on the Ohio and Mississippi, and are growing in importance as manufacturing as well as commercial centres, and furnish of themselves a demand for more coal than is mined west of the mountains. The number of steamboats plying on the Ohio and Mississippi is not less than 500, and the commerce of these rivers is enormous. That of the single port of Cincinnati alone reaches \$125,000,000 per annum, and the whole annual commerce of the Ohio and Mississippi, from Pittsburgh to New Orleans, a distance of 2000 miles, not less than seven or eight hundred millions of dollars.

Should all the steamers on these two rivers burn coal instead of wood, they would consume annually at least 700,000 tons—more than one-fourth of all the coal mined west of the mountains. They are obliged to burn wood more than two-thirds of the distance, because they cannot procure coal, and the cost of wood is about one-third more than coal. The depth of water in the Upper Ohio and Kanawha on ordinary occasions is not great, boats laden with merchandise for New Orleans or intermediate ports cannot take board a large quantity of coal at a time. And as the inadequate amount of capital now employed in the business in the West prevents the establishment of depots at suitable points down the river, after the boats have passed the coal beds of Ohio and Western Virginia two or three hundred miles, they are obliged to resort to wood. One first-class packet will consume on a single trip from Louisville to New Orleans and back 1100 cords of wood. But, besides the steamers, there are on the Lower Mississippi about 1000

sugar-houses, which consume over a million cords of wood annually, at the cost of at least four million dollars. Not a single ton of coal is used by any sugar-house, because with the limited capital in the trade, every bushel is consumed before it reaches them.

It may be confidently asserted that if five times the present amount of capital should be invested in the coal trade on the Upper Ohio and Kanawha, it would scarcely be sufficient to supply the demand. Any company or parties securing now good coal property in favourable locations on Ohio or Kanawha, and provided with ample capital to fall back upon when business is slack, or to be employed when the exigencies of trade may require—to establish large depots at proper points—to keep their hands always employed, and that always at propitious moments—is perfectly sure to make enormous large profits. In such a country, with such present and prospective demands, nothing but want of capital, and the most reckless and incompetent management, can prevent those who embark in this business from rapidly accumulating a fortune.

A few parties at the present time in the business between Pittsburgh and Cincinnati, with only a moderate amount of capital, are making a profit of from 26 to 30 per cent. It is a matter of wonder to me that British capitalists have not turned their attention to the coal business in America west of the mountains. We have not sufficient capital, and would cordially welcome it from abroad, because it will aid us in developing our country, and, at the same time, occasion no injurious competition. I have heard that some little capital was invested some time since in some western coal property, the results of which had not been satisfactory. Was there sufficient capital in the business? Was it prudently, and economically, and efficiently managed? If not, no wonder it was not successful. What but similar enterprises in England, directly under men's eyes, often proved unsuccessful; and yet does this prevent men from using more caution, and trying again? Surely not. Why, then, be deterred from American investments of this kind? Honest and competent men can be found to manage the business so as to make large profits to the owners, while they really aid us in developing our country.

In regard to iron, I may remark that at several points on the Ohio and on the Great Kanawha, in immediate connection with the coal, there are large quantities of the most valuable iron ore, the manufacture of which in our country is rapidly increasing. Have we now manufacture about half as much as England, and if we only had capital the business would progress much more rapidly. Invite your people, therefore, to come over and help us. I am sure they can be instructed where to make investments which they will never regret.

When I have leisure I will say more respecting coal and iron, and also respecting the manufacture of salt on the Great Kanawha, in immediate proximity to the coal and iron.

AN AMERICAN.

MAIN DRAINAGE OF THE METROPOLIS.

SIR.—As to the possibility of separating the fertilising parts of the sewage from the water, so that the latter might flow into the river, and the former be retained and used for the purposes of agriculture, saving thereby the heavy expenses now proposed to be laid on the rate-payers, in a lecture delivered at the Bakewell Farmers' Club, by Alexander McDougal, analytical chemist, Manchester, he said, "There are many dealers, but they are mostly of them injurious to the farmer. Chloride of zinc and nitrate of lead would deodorise, but they would introduce a metallic poison into the manure, besides being very costly. Chloride of lime is very expensive, and gives out a most irritating gas, which is highly pernicious to the lungs, and besides this it destroys the ammonia, the most valuable ingredient in manure. Gypsum requires to be used in great quantities, and after action it becomes highly offensive, being itself liable to decomposition. Copperas, or sulphate of iron, is mischievous to animal life, and destroys by insolubility combining with the phosphoric acid of manure, so essential to the nutrition of plants. Charcoal deodorises, but it turns up the manure, and deprives it of all its organic properties. All these are bad for the farmer, for they all more or less destroy the manure. To obviate this evil a composition is required, consisting of two acids and two bases; sulphuric acid to remove the offensive smell, carbonic acid to prevent putrefactive fermentation, a little lime to neutralise and dry the carbonic acid, which is oily, and magnesia to combine with and preserve the phosphoric acid and ammonia. This is the theory of the only deodorising powder available for agricultural purposes, and which during the late war, though but lately introduced, was so rapidly found to surpass every other for disinfecting stables, hospitals, &c. Its use in vaults, grave yards, and coffins has been so satisfactory, and with so cleanly and pleasant, as to afford, at a mere nominal cost, an entire relief from the most distressing annoyance incidental to the performance of our last duties to the dead."

As there can be no doubt that the whole of the sewage materials are applicable to the purposes of agriculture without any addition or deodorisation, if removed direct to the land without entering the sewers, it becomes now necessary to enquire how it can be removed and applied for that purpose at the least cost, without entering the sewers, according to the present system of allowing the materials to become noxious in the sewer, it appears by the published reports to be impracticable at any reasonable cost to separate the fertilising parts of the sewage from the water, and convey them away for the purpose of agriculture.

I, therefore, beg to propose the use in every house (where convenient) of portable cesspools on wheels, at a level with the yard of the house, to receive the refuse of food, animal and vegetable, and the refuse of fuel ashes, soot, and dust, and, where convenient, the contents of the water-closets (allowing the water to flow into the sewers), to be removed daily by companies, and replaced by empty cesspools.

The present sewers to receive and convey away all the water from every house, and from those houses which have not the means of using a cesspool the sewage also, to the nearest convenient place, to be properly deodorised with the dust, ashes, soot, and other cheap deodorisers, such as clay, lime, and other earths, which will not deprive it of its nutritive properties for the growth of plants, or render it mischievous to animal life.

Blisworth, May 17.

W. G. ELBERT.

L'AIGLE D'OR COMPANY.

SIR.—This company, which was brought before the public about five years ago, I regret to say, remained nearly in a state of quiescence ever since, and I find that my brother shareholders, like myself, have been kept in a state of ignorance respecting the proceedings of the directors, beyond two or three meetings hereafter referred to. Perhaps it may be within your recollection that the company was originally formed with a capital of 75,000/., afterwards reduced to 50,000/., for the purpose of purchasing a valuable gold mine, consisting of 450 acres of land, with dwelling-houses and farm buildings thereon, situated in the county of Goochland, in the United States of America; together with 75,000 acres of agricultural land, which vast tract was to be apportioned to the shareholders in the ratio of 50 acres to the holder of 50 original shares, superseded in their interest in the gold mine.

Shortly after the company was brought out arrangements were made

THE MINING JOURNAL.

Meetings of Mining Companies.

NORTH BULLER MINING COMPANY.

The quarterly general meeting of shareholders was held at the offices of the company, Austinfriars, on Monday.—Mr. J. E. MATTHEW in the chair.

Mr. EDWARD KING (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

A statement of accounts was exhibited, from which the subjoined is condensed:—

Balance last audit	£ 17 7 9
Jan. mine cost and merchants' bills	163 1 6
February ditto	111 17 6
March ditto	98 9 8 = £250 16 5
Call	384 0 0

Balance against adventurers £ 6 16 5

The following report, from Capt. T. G. Givinale, was then read:—

May 15.—The 80 fm. level cross-cut is extended 47 fms. 3 ft. south of Wheal Uny engine-shaft; no lode is yet intersected. If the lode had continued its underlie north it would have been seen some fm. behind the present end. I would strongly recommend continuing the cross-cut to see the lode, as a change in the underlie may have a beneficial effect: it is often the case with the lodes in the adjoining mines. In the present end the ground is light kyllas, discharging a great deal of water. Louis engine-shaft is down 6 fms. below the 78 fm. level. In the last two months our progress in sinking has been unusually slow, in consequence of the lode being so hard, and such an immense quantity of water flowing from it; in the last few days the water has decreased a little, and I hope in future we shall be enabled to sink faster. The lode is cut into about 3 ft., and no signs as yet of seeing the south wall; it is composed of capela and spar, intermixed with yellow copper ore. In consequence of the engine working so fast our expenditure in coals in the last two months has been unavoidably heavy.

A resolution was then passed, that the report and accounts be received and adopted.

Mr. KING explained by a plan the present position of the workings, and observed that, since the last meeting, their progress had been slow, in consequence of the lode being very hard, and the quantity of water flowing from it.

The CHAIRMAN said the next question was their financial position, as they must have money to prosecute the adventure with vigour.

Mr. KING said a call of 7s. 6d. would bring £342., and the cost and merchants' bills might be estimated at about 1000/- per month. A resolution was then unanimously passed that a call of 7s. 6d. be made, and that the shares in arrear of call, made Feb. 15, be forfeited, subject to restoration by the committee, if the arrear be paid within 14 days.

A vote of thanks to the Chairman terminated the proceedings.

EAST WHEAL RUSSELL MINING COMPANY.

The quarterly meeting of shareholders was held at the offices of the company, Bishopsgate, on Monday.—Mr. JOSEPH PROCTER in the chair.

Mr. MURCHISON (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed. The following report was then read:—

May 15.—Since the last general meeting the 88 has been driven east of Hitchins's shaft 17 fms. 4 ft. 3 in., the lode in place producing occasional stones of grey and yellow ore, as much as would be expected, but the ground has not proved so favourable for driving as was anticipated, judging from the level above, although at present it is moderately easy, and is being driven by eight men, at 61 ft. 10s. per fm. This level is about 30 fms. west of Homersham's shaft, and about 45 fms. from where the ore ground commenced in the level above, or the 66. Hitchins's shaft has been thoroughly repaired from the 30 to the 88, by putting in new bed-plank, side casing, &c., which tended to retard our other operations, and added considerably to the month's costs, but being done it will last a long time. Homersham's shaft has been sunk 10 fms. below the 66, where progress is somewhat impeded, owing to an increase of water, which, however, is not in such abundance as to necessitate the application of pitwork; the lode produces good stones of ore now and then. Northey's winze, sinking below the 66 by nine men, at 18 ft. per fm., is down altogether 8 fms. 1 ft.; the lode in the bottom of the winze, so far as taken down, is 7 ft. wide, and composed of prian, soft spar, capela, and a little mandic, altogether a very fine lode, and worth 50/- per fm.; there remain, however, 5 feet of the lode yet to be taken down, from the appearance of which I have every reason to expect it will be of improved value, and equal to its former productiveness at an increased depth; the general character of the lode I consider to be improved. It must not be forgotten that the lode in this winze was worth for the first 5 fms. sinking not less than 125/- per fm., and will average 80/- per fm. to its present depth for its length (7½ ft.), and that 45 fms. of ore ground have already been driven over and through in the 66, worth on an average from 2 to 2½ tons per fm., and the driving of the level will be resumed as soon as practicable, when fresh discoveries will be made; while Capt. Metherell's dismissal took place because he strongly disapproved of the advice of Capts. Richards and Phillips for working the eastern ground only. Mr. Emmer says that a change in the agency took place "by way of variation, and to alter the *sauvage* of the affair," which is more true than he intends it to be; but Mr. Emmer must have a strange idea of what ought to be the capabilities and "judgment" of a mine agent if he thinks Capt. Metherell's services should have been retained after the description he has given; and one can help being surprised that he should regret that Capt. Metherell is not allowed to get a situation under false colours.

Mr. Emmer refers to the views which Capt. Charles Thomas expressed as to this mine, which I find were as follows:—In his report of January, 1853, he says—"From a careful consideration of all the circumstances referred to above, the great size of the lode, the intervening cross-course, with an increase of copper ore in the lode on approaching it, the even course falling in with it, together with the facility of working and the power of the engine, it seems a speculation of no ordinary character; while, on the other hand, the untried character of the ground to any considerable depth, and the unusual proportion of iron in the lode, induces some hesitation in speaking *decidedly* of its prospects. The favourable view of the question is considerably heightened by taking into consideration the north lode, lying about 20 or 30 fms. from the main lode." Mr. Emmer has presumed that Capt. Thomas, but no one is influenced by Mr. Emmer's opinions who really understands their value. I have heard that he knows something of slate quarries, but no capitalist nor investor who has had any experience of mining authorities, would invest a shilling on his report of a copper, lead, or tin mine. Those who do not know better may be led away by his specious remarks, but a person who is always announcing himself to be superior to others, and is continually speaking of his own irreproachable character, is surely favourably regarded by reflecting people.

Mr. Emmer says there will not be any large deposit of ore in East Russell, *because* the lode is all driven over in the Tunnel level, and but little or no ore has been found, except at and about the junction, and that is short." It is rather unfortunate for a person who pretends to know so much of practical mining to make this statement, for the whole history of mining refutes it, and so do the facts connected with East Russell. Those who are really practical men can inform Mr. Emmer that it is not a favourable indication to find much copper ore in shallow levels, while when some ore is met with it is always expected, and frequently found to be the case, that the lode improves in depth. The only allusion that "Investigator" made to the merits of East Russell was on this very point. He said, "Seeing that the 55 has been better than the 45 (the Tunnel level), and the 66 very much better than the 55, and that the lode below the 66 is still so much richer than either, as far as sink, it is fair to anticipate a good lode for still greater distance in the 88; and this is the opinion of Capt. Pope and others, who have inspected the mine lately."

Mr. Emmer complains that the letters relative to his remarks about East Russell, and the mode of working it, have been published anonymously; but such complaints are generally made by those who cannot answer them, and who can only try to depreciate their value and importance by referring to the bugbear of the "anonymous correspondent." In this case, Mr. Emmer has been principally answered by his own letters, and nothing has been stated which he has even attempted to question. But before I conclude, I would ask him the names of the five dividend mines which he says he has been connected with for so long? and also whether his memory serves him right as to his never having been connected with a losing one? Again, will he favour us with the name of the mine of his own, in which he says there is more ore discovered than in any other mine in Cornwall and Devon, except Devon Great Consols? In the mean time, he must excuse me for being somewhat sceptical on these points.—May 11.

J. S. D.

THE TIN TRADE.

Sir.—The favourable position of the tin trade cannot fail to have a good effect upon the mines producing that metal, and I quite agree with your correspondent that the probable average price which will be realised at the next Dutch sale is 80 florins. The stock on warrants in Holland to April 30 was 33,755 slabs, against 11,220 slabs at the corresponding period of last year, there is, therefore, three times the stock on hand, but we have against this the delivery in April 6223 slabs, against 2000 slabs in the corresponding month of last year, so that it is evident that the increased consumption more than makes up for the larger supply. A firm that has, perhaps, an interest in keeping down the price until after the sale, says that "any considerable advance before the result of the Dutch sale (which we presume will take place some time in June) would be most unfortunate for the trade during the coming year, as from the quantity already arrived in Holland we shall have a larger sale than was anticipated, and this with the old stock, both here and in Holland, need cause no fear of a short supply of tin for the next eight or ten months, although from the accounts we had of the production of Banca, and the short shipment of Straits, we cannot look for cheap supplies for tin for some time to come." The stock in London on May 1 was 802 (some say only 770) tons, against about 592 tons on May 1, 1857, being an excess of 210 tons; but the demand for tin is considerably on the increase, whilst the production is comparatively stationary. The remarks referred to are, so evidently made for the purpose of influencing the market for a depression, and are so directly contradicted by the recent advances in tin, that they scarcely call for notice; and as foreign has risen and as, to use the words of the firm quoted, "we may expect higher prices for foreign," I see no reason to justify the assertion that a considerable advance before the sale would be most unfortunate for the trade. If purchasers of metals meet their engagements punctually the miner has nothing to fear; it is the throwing of large parcels on the market for anything they will fetch that does such injury. Let shareholders in tin mines and capitalists intending to invest, calculate on the price of tin speedily reaching 137/- per ton, which it would be now but for the scheming of speculators for the Dutch sale, and I am convinced, they will not be disappointed.—May 17.

STANNUM.

SAMPLERS' FEES AND TICKETING DINNERS.

Sir.—As I know the information herein contained will be of service to some parties as well as myself, I make no apology for troubling you with this letter. Much has been said about the samplers' expenses, ticketing dinners, &c., so oppressive to eastern miners, but as yet I have seen no advances toward practical utility. Now, as I am so circumstanced to render it of consequence to me, I have elicited the following particulars:—The cost of freight I presume to be the same, 2s. 8d. per ton; returning charges at Swansea, 21. 5s.—10s. per ton less in Cornwall. Commission on sale, 4s. per ton; plus 1s. in favour of Swans' ticketing, without the annoyance and trouble, as well as expense, of weighing, sampling, &c., this all being included in the 4s. per ton. This is underwritten and accomplished by a firm of the highest respectability.—Messrs. Bath and Sons, Swansea; this saves the terrible and disgraceful charges so justly complained of. On a sale of 100 tons, and I am sure, to no small amount, to the eastern miners, the cost of the samplers' expenses, &c., this all being included in the 4s. per ton. This is underwritten and accomplished by a firm of the highest respectability.—Messrs. Bath and Sons, Swansea; this saves the terrible and disgraceful charges so justly complained of. On a sale of 100 tons, and I am sure, to no small amount, to the eastern miners, the cost of the samplers' expenses, &c., this all being included in the 4s. per ton. This is underwritten and accomplished by a firm of the highest respectability.—Messrs. Bath and Sons, Swansea; this saves the terrible and disgraceful charges so justly complained of. On a sale of 100 tons, and I am sure, to no small amount, to the eastern miners, the cost of the samplers' expenses, &c., this all being included in the 4s. per ton. This is underwritten and accomplished by a firm of the highest respectability.—Messrs. 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PROVINCIAL BANK OF IRELAND.

The thirty-third annual meeting of proprietors was held at the offices of the bank, Old Broad-street, on Thursday, —Mr. OLIVER FARRER in the chair.

The SECRETARY read the notice convening the meeting.

The CHAIRMAN said the usual course was, in the first place, to proceed to the election of the directors, who retired by rotation, whose names were —Matthias Wolverley Attwood, Bonamy Dobree, Jun., Elliot McNaughton, and the Right Honourable Sir John Young, Bart. —The names of those gentlemen having been severally moved and seconded, they were unanimously re-elected. —He (the Chairman) notified that a vacancy had occurred in the direction by the death of their respected friend Sir Robert Campbell, and that only one candidate had offered himself to fill that vacancy —Mr. Beaumont Hankey, whose name he would put to the meeting.

The resolution having been seconded, Mr. Hankey was declared elected a director.

The SECRETARY then read the following report:—

The directors have much pleasure in reporting, for the information of the proprietors, that the business of the bank for the year which ended on March 27 last was most satisfactory in its results. With improved agricultural management, the prosperity of Ireland continues to advance, and the influence of this on the bank's business has been very perceptible during several past years. Since last harvest the price of grain has declined, and farming profits have consequently been less, but no material injury to the general interests of the country can be said to have arisen from that cause.

There was as usual considerable variation in the reports from different districts regarding the harvest of 1857; but, though the grain crops are believed to have been under an average in acreable produce, they were, for the most part, of good quality and well saved. The potato crop, however, was much less productive than it had been during several previous years.

In a commercial point of view the past year must be remembered as one of peculiar difficulty. Numerous mercantile and bank failures took place in the United States of America, followed by similar misfortunes in this country, and throughout Europe. Some failures occurred in the linen and corn trades in Ireland; but, considering the severity of the pressure elsewhere, it was withheld in Ireland in a manner which showed the general soundness of trade in that country, and the satisfactory condition of the banking interests.

The stoppage of some joint-stock banks in England and Scotland in the month of Nov., when the commercial crisis existed in England in its utmost severity, occasioned demands for gold upon all the banks in Ireland. These demands were, however, everywhere promptly met, and very soon subsided, and the gold immediately began to flow back again to the banks; and it was satisfactory to remark that the demand, while it continued, did not extend to the commercial classes, who evinced no symptoms of distrust.

Before submitting to the meeting the usual statement of accounts, the directors have to remark that circumstances which have lately come to their knowledge induce them on this occasion to mention that the additional dividends which have been paid to the proprietors during the last few years have been taken out of the current profits of the bank; and as a peculiar legal interpretation has, in some cases, been given to the word bonus, as applied to those additional dividends, the directors think it better to discontinue the use of that word, and to designate future payments of a similar kind merely as additional or extraordinary dividends. The attention of the meeting is now requested to the following statement:—

The account submitted to the last yearly general meeting, in May, 1857, showed the amount of rest, or undivided profits, on March 28, 1857, to be £225,914 17 9. Out of which there were paid to the proprietors an extraordinary dividend of 6 per cent. at Midsummer, 1857, and a second extraordinary dividend of similar amount at Christmas, 1857, making together the sum of .. 64,500 0 0

Leaving a balance of £161,114 17 9. And there has been further deducted the amount of two half-yearly dividends paid to the proprietors, as follows:—At Midsummer, 1857, 21,600/-; at Christmas, 1857, 21,600/-; together .. £43,200 0 0

Leaving of the rest of last year a balance of £117,914 17 9. To which there has since been added the amount of nett profits for the year ending on the 27th, being the last Saturday of March, 1858, after deducting property tax, and providing for all bad and doubtful debts .. 116,468 13 3

Making the amount of rest, or undivided profits, on March 27, 1858, £224,383 11 0. It may be remarked that the profits shown in the above account equal very few of last year, which exceeded those of any previous year; but the proprietors will bear in mind that such is attributable in some degree to an increase of the bank's business, it must be considered as arising chiefly from the high rate of interest, and continued exemption from losses of importance.

It is with much gratification that the directors on this occasion present to the proprietors a state of affairs so satisfactory as is exhibited in the above account; and it is now their pleasing duty to intimate their intention to pay, in July next, an extraordinary dividend, or equal amount to that paid at the same period last year—30s. on each 100/- share, and 12s. on each 10/- share, of the capital stock of the bank, in addition to the usual half-yearly dividend of 4 per cent., making the amount to be then paid 21. 10s. on each 100/- share, and 1/- on each 10/- share, for the half-year ending at Midsummer next; and they purpose also, as heretofore, to pay the property tax for the proprietors.

The CHAIRMAN said that the report which the proprietors had heard read needed, on his part, very few words in the way of commendation to secure its acceptance and approval. (Hear.) It was, perhaps, the best report that, during the period of 33 years, they had been prepared to lay before the proprietary. When they considered the extraordinary period they had passed through, the results were such as hardly any reasonable man could have imagined, or have anticipated. (Hear.) He should make very few observations on this occasion, because, to use a homely phrase, "Good wine needs no bush;" and, after the sample which had been produced, he hoped the proprietors would be satisfied. All matters referred to in the report were really of an encouraging and pleasing nature. They were enabled to allude to the improved condition of Ireland in every respect; for though there had been a decline in the prices of agricultural produce, there was a very reason to believe that there was no country in Europe, or he might say in the world, enjoyed such quiet comfort and happiness. Ireland, as she was now, presented a beautiful comparison to what she was not many years since; and he hoped and trusted that that prosperity and contentment would long continue, because he could not help flattery himself that the introduction of joint-stock banks, of which this was the first, had been instrumental in forwarding the interests of Ireland in every respect. They had had a most extraordinary year to pass through. A demand, he would say a most senseless and useless demand, for gold had at one time sprung up in Ireland, not amongst the commercial community, indeed, for they showed no symptoms of distrust. (Hear, hear.) From whatever cause the demand referred to might arise, it became necessary that the board should be on their guard to meet it at every bank. They were well prepared, and this bank among the rest. This distrust came on at an unfortunate time, when the monetary and commercial pressure was so severe that even a small abstraction of gold from England was very inconvenient. But they had only one course to pursue, and that was to keep up an ample supply of gold at all their branches. When the demand for gold was made (for he could hardly call it a run) their circulation was 1,100,000/-, and they had in specie about 430,000/- When the demand for gold ceased entirely, their circulation had gone down to 930,000/-, but their specie was 550,000/- so that as their circulation decreased their gold increased; and so they could have gone on till every note was paid. The only thing he had to lament was, that in order to procure the gold they had to realise Government assets, which were then depreciated in value. Since then they had re-invested the amount, and there was to be taken into account the cost of difference between the sales made and the cost of re-investing, which constituted the whole loss. Every gentleman knew that a certain portion of the money of the bank must be employed in London, and he was happy to say that during the whole of the crisis they had not incurred a loss of one penny. (Hear.) He thought it must be gratifying to the proprietors to know that this establishment had taken deep root in the good feeling and confidence of the people of Ireland. The number of the proprietors at this time was 955, and of that number 670 were residents in Ireland. (Hear.) He thought that spoke volumes as to the opinion in which this bank was held there. Of the whole of the proprietors a large proportion were ladies—(hear)—and, therefore, it was more than ordinarily incumbent on those who conducted the affairs of the bank to take care that, whilst they gave them a fair share of the profits, they should do everything in their power to secure them from loss. When this bank was newly established, they were obliged to obtain their officers from England and Scotland, but since then the object was that the banks in Ireland should be managed by Irish gentlemen. They were, therefore, anxious that any gentleman in the neighbourhood who was interested in any young man who could write a good hand, cast up accounts, and who was capable of undergoing a fair examination, should be enabled to introduce him into the bank. They had taken in many learners, or probationers, as they were called, who were now filling high positions in the bank, with credit to themselves and advantage to the establishment. The number of their officers, including porters, in Ireland was 248, and of that number 202 were natives of Ireland. (Applause.) He did not know that he need trouble the meeting with many further observations. They would observe, it was submitted in the report that the large amount of profits on the year was attributable to the high rate of interest which ruled, and to their having, fortunately, made very few bad debts, and for this they had to thank the officers of the establishment—(hear)—and though it was now almost a stereotyped phrase, he would repeat it again and again, that they owed to the carefulness of the officers more than they could possibly suppose. The care, the zeal, and the watchfulness of his friend beside him (Mr. Hewat), and of other gentlemen, in every department here, and also in Ireland, he could not sufficiently eulogise, for were he to attempt to do so he knew it would raise a blush on the cheek of Mr. Hewat, for he was a very modest man. (Applause.) Again he assured the proprietors that they could not estimate those gentlemen too highly. The estimation in which they were held by the proprietors could not exceed that in which they were held by the board. There was one more matter of business to which he had not referred. Henceforward they did not mean to give a bonus, but an extra dividend. An extraordinary idea had arisen in Ireland, and had even reached the Bench, that a bonus was, strictly speaking, an addition to the capital, and that, therefore, if a person possessed shares for life he was only entitled to the interest, the bonus going to the reversion of capital. It happened that every bonus this bank had made had been paid out of the current profits of the year, with the exception of the first time they made a bonus, which was in the year 1836, and then it was paid from the accumulation of small profits of several years before. It did not arise from the profits of the year; it was not strictly so, but they gave 10/- shares, which, of course, went to the increase of capital. But when there was an additional dividend, whether they called it bonus or dividend, it made no difference; it was a participation of profits, and they would henceforward avoid the word bonus. When they met last year, it was stated that it was intended to pay a dividend of 20 per cent., and they did not hold out an expectation that it would be as much in January; but though they had passed through an awful crisis, looking to the profits which had been made, they thought it would be unjust to withhold it, and in July they would pay the same amount. At the end of March, 1856, their undivided profits were 156,000/-, out of which they had paid two 4 per cent. bonuses. In 1857 they advanced to 225,000/-, and instead of diminishing the rest, they had paid a dividend and bonus of 20 per cent.; and, instead of diminishing the rest, it was now 234,000/- He, therefore, hoped he might congratulate the proprietors on the position of the concern. The board would continue to use their best exertions, and he trusted they would again meet the proprietors together with equally good reports. He begged to move that the report be received, adopted, printed, and circulated.

The Rev. J. LAWRENCE was most happy to second the resolution, and stated that since he had last attended the meeting he had gone through Ireland, and it had been very satisfactory to him to hear of the high credit in which this bank was held from one end of the country to the other. A remark was made to him by a retired officer of the establishment, who, speaking of Mr. Murray, the chief officer, said that it was more than their heart were worth to make a bad debt, so vigilant was that gentleman in his superintendence of those who were under his guidance. With reference to the run upon the banks, there was no doubt that the unfortunate affair of the Tipperary Bank was the precursor to an universal panic, out of which this bank came with unshaken credit.

Mr. HENRY BRETT, as the proprietor of a few shares, but an Irishman, begged to bear his testimony to the zeal and ability of the officers of the bank, and he should respectfully propose that a more substantial compliment than a vote of thanks, however gracefully proposed, should be paid to those gentlemen. They had a large amount of rest, and if

what he suggested were carried out it would give much satisfaction to a great body of shareholders in Ireland.

The CHAIRMAN said that nothing could be more gratifying to the board than to hear their officers thus highly spoken of. He hoped and trusted that there was not a single person connected with the bank whose merits were not considered from time to time; and, when their merits entitled them to it, they were always met in a liberal spirit. No establishment was better paid, and he believed general satisfaction was expressed by those who were in their employ. Every year these matters were taken into consideration by what was called the "appointment committee." Last year an addition was made to the salaries from the highest to the lowest.

The question was then put, and carried unanimously.

Mr. SIMEON WARNER begged to draw the attention of the meeting to the subject of the shareholders or remuneration to their excellent directors. He did not know what they received, but he was ready to sing their praises, and he proposed that 1000/- a year be added to the remuneration of the directors, making it equal to 300/- a year for each member of the board. —Mr. PHILIP TWELLS seconded the motion, which was carried with acclamation, after a few words from the Chairman.

On the motion of the Chairman, a very cordial vote of thanks was given to Mr. Murray, Mr. Hewat, Mr. Proctor, Mr. Christie, and the other chief officers of the bank.

The compliment was briefly acknowledged by Mr. Hewat.

A vote of thanks to the Chairman and directors was carried with applause, and the meeting separated.

STANNARIES' COURT.

At the quarterly sittings of this Court, held at Truro, before the Vice-Warden of the Stannaries, Mr. Edward Smirke, the following motions were made in equity:—

TYWARNHAILE MINE—JEFFREE AND ANOTHER v. DALE.—In this case the plaintiffs were Mr. Isaiah Jeffree, of Truro, and Mr. Alfred Jeffree, of Queen-street, Cheadle, carrying on business at Truro as brass and iron founders, under the style or firm of Alfred Jeffree and Company. The defendant was the managing agent of Tywarnhaile Mine. It was a creditor's petition against the mine for recovery of 448/- 5s. 9d. for goods and materials supplied by plaintiffs between May 1, 1857, and Feb. 10, 1858. Mr. Hockin, on behalf of plaintiffs, moved for a decree for payment, and said his clients would accept payment as follows:—one-half of debt, 224/- 2s. 10d., to be paid on May 19, and the rest by three equal instalments of 74/- 1s. 3d., to be paid on July 19, Sept. 19, and Nov. 19. Mr. Roberts, for defendant, consented to the decree, and for payments to be made as stated, the costs to be paid with the instalments.—The Vice-Warden made the decree.

GREAT WHEAL VOR UNITED MINES—ALLISON v. CURTIS AND OTHERS.—Mr. Roberts said this was a purser's petition against several defendants for recovery of calls. He had to move for a decree against Mr. Charles Trueman, trading under the style of firm of Cotton and Trueman, the costs due amounting to 125/-; and also against Messrs. Schneider, Trueman, and Rankin, for 625/- He believed Mr. Stokes would consent to a decree for payment in seven days.—Mr. Stokes said he consented to the decree on the part of defendants. Mr. Trueman was the Member for Helston, and the proceedings were merely for obtaining a sale of the shares, and did not affect him personally; he was sued in his representative capacity as a trustee. There was a petition also against Mr. Roberts in respect of his individual shares, but that amount had been paid.—The Vice-Warden granted the decree.

WHEAL TALLACK (St. Agnes)—JEFFREE V. LORD CLINTON.—This was a purser's petition by Mr. Jeffree, 28, Queen-street, Cheadle, against Lord Charles Pelham Clinton, as an adventurer, for the recovery of costs in arrear to the amount of 250/- Mr. Hockin moved for a decree for payment, and Mr. Roberts, for defendant, consented to the condition of paying 100/- on May 19, and the balance in five equal instalments on the 19th day of the following five months, with costs.—Decree granted. In another case of the same plaintiff, as purser of Wheal Guskus, in St. Hilary, against defendant for recovery of 300/-, costs in arrear, Mr. Hockin moved for a decree for payment; 200/- to be paid on the May 19, 1857, on July 19, and the balance by equal instalments of 25/- per month on the 19th of each succeeding month. Mr. Roberts consented, and the decree was made.—In a third case of the same plaintiff, as purser of Rosewarne Consols Mine, against the same defendant as an adventurer, for recovery of 620/-, calls in arrear, Mr. Hockin moved for a decree for payment, and said Mr. Roberts would consent to the following arrangement:—250/- to be paid on May 19; 250/- more on June 19, and the remaining 120/- on August 19, with costs. The Vice-Warden said he understood the arrangement was that the costs were to be paid *pari passu* with the principal sums, to which Mr. Hockin replied in the affirmative. Mr. Roberts said, on behalf of defendant, he consented to the decree in these cases, it being understood that where a less sum was taken than the claim, it was to be received in liquidation of the whole debt. Thus, in Wheal Tallack, the claim for costs was 360/-, and the plaintiff accepted 300/- In Wheal Guskus the claim was 625/-, and the plaintiff accepted 500/- Mr. Hockin said the amount taken was in satisfaction of the whole claim. The Vice-Warden granted the decree.

CAMBORNE VEAN AND WHEAL FRANCES—VAUDREY V. BURTON AND WHEEL TALLACK (St. Agnes).—A purser's petition for recovery of costs, on which a decree had been granted for payment in seven days from March 31. Mr. Hockin moved for a decree for payment, and said Mr. Roberts, for defendant, consented to the condition of paying 100/- on May 19, and the balance in five equal instalments on the 19th day of the following five months, with costs.—Decree granted. In another case of the same plaintiff, as purser of Wheal Guskus, in St. Hilary, against defendant for recovery of 300/-, costs in arrear, Mr. Hockin moved for a decree for payment; 200/- to be paid on the May 19, 1857, on July 19, and the balance by equal instalments of 25/- per month on the 19th of each succeeding month. Mr. Roberts consented, and the decree was made.—In a third case of the same plaintiff, as purser of Rosewarne Consols Mine, against the same defendant as an adventurer, for recovery of 620/-, calls in arrear, Mr. Hockin moved for a decree for payment, and said Mr. Roberts would consent to the following arrangement:—250/- to be paid on May 19; 250/- more on June 19, and the remaining 120/- on August 19, with costs. The Vice-Warden said he understood the arrangement was that the costs were to be paid *pari passu* with the principal sums, to which Mr. Hockin replied in the affirmative. Mr. Roberts said, on behalf of defendant, he consented to the decree in these cases, it being understood that where a less sum was taken than the claim, it was to be received in liquidation of the whole debt. Thus, in Wheal Tallack, the claim for costs was 360/-, and the plaintiff accepted 300/- In Wheal Guskus the claim was 625/-, and the plaintiff accepted 500/- Mr. Hockin said the amount taken was in satisfaction of the whole claim. The Vice-Warden granted the decree.

NORTH GRAMBLER MINES—PIKE V. LE BRETON AND ANOTHER.—Mr. Hockin said an order had been granted in this case, but the defendants having gone abroad, all efforts to serve them had proved futile, and he moved to extend the time for service, in order that constructive service on the mine might be adopted.—The Vice-Warden said he would make the order on an affidavit being filed to show why service had not been effected. In another case, of Cardon v. Loxton and Others, a petition by the purser of South Crozier Mine, Mr. Stokes made a similar application to the above, with a like result, in regard to extending the time for service on defendant Loxton, who had removed from Exeter to Swanage.

ST. COLUMB TRESAVEAN MINE—WEBB V. POLKINGHORNE AND OTHERS.—Mr. Chilcott said this was a purser's petition for recovery of costs. All the defendants had met the claims against them, with the exception of a defendant called William Lenton, whose shares had been sold under an order of the Court, and realised 31. 12s. There was still a balance remaining due from him of 10s. 10s. 7d., and he (Mr. Chilcott) moved, on the certificate of the Registrar, for an order upon the defendant to pay the balance, the motion being under the 119th rule of the Court.—The Vice-Warden granted application.

SAMPLERS' FEES AND TICKETING DINNERS.—At the Tavistock County Court, Mr. Ash sought to recover 10/- 3s. 9d. from Captain John Sparge for dinners supplied to the defendant and others on account of Great Sheba Mine. The result of a verdict for the defendant would be the abolition of the only existing custom which tends to promote friendship and unanimity amongst miners. There is an old saying with reference to the very common practice of "saving at the spigot and wasting at the bunghole;" perhaps it would not be altogether inapplicable in the present instance. For about twelve months the plaintiff has been an innkeeper at Calstock, and the captains and samplers have held their dinners there on sampling days.—Mr. Bridgeman, solicitor, said that the defence was that the adventurers had received no particulars of account, and denied their liability, on the ground that the samplers and others had received no authority to run up such a score.—Captain Sparge thought the claim was a great imposition, but would not have objected to pay the debt if the adventurers had not refused to refund it to him.—The various statements of the defendant led the Judge to remark that it was quite clear that there was a custom among the miners to have a dinner on the sampling days, and that each mine afterwards pays its share of the expenses.—Mr. Richard Walters, the clerk at Hingston Down, confirmed the opinion of the Judge. The case was adjourned, Mr. Bridgeman remarking that the claim would be, no doubt, paid before the next court day.

CORNISH MINING.—Capitalists should at all times thoroughly consider the relative merits of the several classes of security offered in the market; more especially as so many opinions are entertained, according as the adviser is interested in one or the other description of stock. The stock-brokers recommend Consols, unless specially connected with the railway market; and the railway sharebrokers declare that there is nothing equal to guaranteed and preferential railway shares. Fortunately, however, mining has its advocates, and the task of proving that it is by far the most desirable channel for investment is by no means difficult. The second edition of Mr. R. Tredinnick's *Review of Cornish Copper Mining Enterprise* has just been issued—the information upon the various dividend and progressive mines of Cornwall and Devon being brought down to the present month. He introduces the subject to the reader with the observation that it may be asked, with great propriety and consistency, what description of securities equal Cornish copper mines (judiciously selected and worked), or can compare with them as regards the chances of enhanced market value? The shares of joint-stock banking companies afford the nearest approximation, but risks are far greater and more numerous. The fearful responsibilities that attend shareholders in those concerns, even for three years subsequent to the date of transfer of shares, involve the necessity of severe investigation, with great hesitation, before embarking even in the best and safest of such institutions. To make mining investments pay, the exercise of sound judgment, practical knowledge well applied, good localities, and ample capital are indispensable; then, with hope as a talisman, perseverance is the guarantee of success. Nine-tenths of past losses in mining investments can be traced to schemes without promise; nay, in numerous cases, devoid of the very elements essential to success. Mr. Tredinnick very fairly states that his object is "to disseminate correct intelligence and data, and thus promote legitimate mining adventure, and at the same time to extend his business as a mining engineer and sharebroker in quarters whence the peculiar and unusually large profits resulting from Cornish copper mining are up to this date unknown." The review is accompanied by several well-executed maps, which render the explanations more easily understood; and the style in which the information is given is sufficient to recommend the treatise to capitalists of all classes, and also to those interested in the development of our mineral industry.

The Rev. J. LAWRENCE was most happy to second the resolution, and stated that since he had last attended the meeting he had gone through Ireland, and it had been very satisfactory to him to hear of the high credit in which this bank was held from one end of the country to the other. A remark was made to him by a retired officer of the establishment, who, speaking of Mr. Murray, the chief officer, said that it was more than their heart were worth to make a bad debt, so vigilant was that gentleman in his superintendence of those who were under his guidance. With reference to the run upon the banks, there was no doubt that the unfortunate affair of the Tipperary Bank was the precursor to an universal panic, out of which this bank came with unshaken credit.

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Mr. James Crofts sends us the following remarks:—

In the absence of stirring incidents, commercial, political, or monetary, it gives the writer much pleasure to note a considerable improvement in the mining market (in almost every description of stock, dividend or progressive, tin, copper, or lead). For the latter there has been considerable extra demand, such as for Mary Ann and Trebawen, and at advanced prices. Tin and copper shares may be considered as stationary in character, and, consequently, the transactions are still in favour of buyers. Another small advance in the standard for copper is just announced, which, as an indication of the coming of the new year, may be of interest to the larger producing mines, to enhance their value in the hands of holders, and to increase the pretensions of sellers. We must look also, sooner or later, for the good effects upon the trade of the country which the present highly favourable weather cannot fail to exercise, and to the impetus which will be given to consumption by low prices to agricultural produce, and, in particular, to its effects in the mining districts, where, of course, the larger portion of the miner's expenditure being for the necessities of life, a corresponding reduction in mining costs will follow.

We have several times referred to Okef Tor Mine, in Calstock, as progressing satisfactorily. They have now 160 to 180 tons of copper ore ready for sampling on the 25th inst., and valued at 4/- to 5/-

FOREIGN MINES.

THE MEXICAN AND SOUTH AMERICAN SMELTING COMPANY have advised from Chil to April 1. From Hermosura it is reported that the *Indias* had been chartered, and had taken on board 135 tons of bar copper, being about a month's make. Several days had been lost in the elections (which had, however, passed off quietly), in holidays, and by the rains, which had fallen suddenly. They had, however, done no harm to the crops. The *Vision* arrived at Liverpool on Wednesday, with 147 tons of bar copper for the company, having been several months out.

THE COPLAPO MINING COMPANY have advised to March 31.—The estimated produce for March was 7300 quintals, and the approximate value \$10,250/61. Driving west of Harman's shaft, they have cut a lode 2 ft. wide, of 11 per cent. ore, and have given it out to quintales, being the only way to make a profit on such low class ore, which, however, is a good flux. The barrows they are now operating on have been entirely turned and picked by hand; times, and were supposed to be useless; but they have adopted the only available plan of saving the smalls, by using a sieve of 16 holes to the inch, and sifting the old barrows, and the friction caused by the operation enables to view the green carbonate in the ore, and enables them to pick out the refuse with great facility. Dulcinea Mine is looking much the same as when last reported on.

THE ROYAL SANTIAGO MINING COMPANY have advised to April 10.—Captain Simmons's time ceases to day, and we have all been underground examining the different stations now at work, and those we propose working. The following is the statement of your mines at this date, as per personal inspection: New Isabella shaft, ground favourable for sinking. In the 22, east of cross-cut, the lode is 2½ to 3 ft. wide, producing 3 tons of ore per fm. We have commenced to rise in the back from near this point to communicate to the winze sinking below the 22; lode there is 2 ft. wide, producing 2 tons of ore per fm. In the winze sinking below the 22 the lode is 3 ft. wide, producing 2½ tons of ore per fm.—a very promising winze. In the winze at the 22, west of cross-cut, the lode is 1 ft. wide, producing 1 ton of ore per fm. The 22 east of new lode is just now poor. In the 22, east of New Isabella, the lode is also poor now. In the stopes in the back of the 22 east, the lode is 1 ft. wide, producing 1 ton of ore per fm. The 22 west is at present obscured by a slide, and considerable water comes from the north side. In the winze below the 22 east, on point of junction, the lode is 2½ ft. wide, producing 3 tons of ore per fm. In the stopes back of the 22 east the lode is 1½ ft. wide, producing 1½ ton of ore per fm. The 10 end east is poor just now, but producing, occasionally stones of ore. In the stopes back of the 10 east the lode is 1½ ft. wide, producing from 1½ to 2 tons of ore per fm.

April 17: Since I last wrote to you little or no alteration has taken place in the mines to call your attention to. We are expecting every moment to hole the winze coming from the 22 on junction to 32, when we will have more advantage for breaking out, that we have now.

THE UNITED MEXICAN MINING ASSOCIATION have advised from the Commissioner, Mr. Fitzherbert, dated Guanajuato, April 14.—Mine of Jesus Maria y Jose: On March 27 I had to report a deterioration in some of the works of this mine, since which a further falling off in its productiveness, and the quality of the ore, had taken place; but this unfavourable state, I am happy to say, has been but of short duration, and of a very marked improvement, almost simultaneously, in most of the labours (or works) is now manifest, as I had the satisfaction to observe on inspecting the mine yesterday. Partly from the deterioration referred to, as well as that half one week and a portion of another have been holidays, and also because I found it necessary to restrict the extraction of ore of a low ley tending inconveniently to increase our stock on hand, the extracting for the last three weeks has been but 1900 cargas, but there is now every prospect of far better results. The works going on are the contracido (or roof) of San Pantaleon, the pozos of San Maximino (an old work renewed, and now steadily improving), the pozos of San Pedro, giving good ore, 2½ varas wide, that of San Pablo, in ore 2 varas wide, and the pozos of San Miguel, yielding very good ore, the pozos of Jesus, one of 2½ varas wide, and the pozos of Dolores, which after an unfavourable but transient change has resumed to a satisfactory state. A sale of about 800 cargas will take place to-morrow. There have been remitted to the haciendas in the three weeks 1300 cargas. The tortas last benefited at the hacienda of Dolores, and those under the process of reduction, are an improved ley, averaging nearly a marc per monto above those recently washed. This will give a considerable increase in the balance between the expenses and the proceeds of the tortas. A raspa from Duran has just been sent in to the Mint; the assay gives 1837 grains of gold per marc, and the value will be about \$4400. I shall make every effort to provide more hacienda power, being convinced that it would have a most favourable influence on general profits. I much regret that there is not the means taken to accomplish this object at once.—La Trinidad: Operations as last reported are in progress in this mine.

THE PONTIGUAUD MINING COMPANY have Captain Rickard's report to May 15.—Roure: The 40 metre level, south of St. Peter's shaft, on the Emily lode, is still producing upwards of 5 tons of ore per fm. The same, north of cross-cut, is worth 3 tons per fm. The 20 metre level, south of St. Peter's shaft, on St. Mark's lode, is looking very promising, being 3½ ft. wide, composed of quartz and silver-lead ore, and every flake of the rock filled with carbonate of lead; we hope this level will soon enter the run of ore we have in the adit level on the same lode. The adit level, north of St. Peter's shaft, is improving a little, but not rich; the same level, south of cross-cut, is still looking well, producing 2½ tons of good ore per fm.; this level has already laid open a good piece of ore ground for nearly 40 metres in length. The 20 metre level, south from Agnes' shaft, is not producing ore to value, it being at present driven on a part of the lode only to make communication with the winze, which we expect shortly to do; and when done we shall cross-cut to ascertain the whole width of the lode, as at the level above at this point it was 15 ft. wide. The 20, north of Agnes', continues to yield 5 tons of ore per fm., and of great promise. The deep adit, south from Agnes', has passed through some good ore ground since my last, but at present is not producing ore to value. The stolen south has been resummed since my last, where the lode is large, and bespangled throughout with ore. The stopes in Roure are turning out well.—Rosier: I have no change to mention in any of our levels in this mine. The tribute pitches continue about 40 tons of ore per month.—Mioche: The sinking of Taylor's engine-shaft, under the 20 metre level proceeds satisfactorily this month, and the lode looks well, varying in value from 2 to 3 tons of ore per fathom, for the length of the shaft, which is 9 ft. The 40 metre level north, on the eastern part of the No. 3 lode, continues ore, and yielding 1½ ton of ore per fm.; the same level north, on the western part of No. 3 lode, is producing a little ore, but not to value. The 40 south is looking better now, worth 2½ tons of ore per fm., and promises a further improvement. The 20 metre level south, on No. 6 lode, is producing occasional stones of ore, and of a promising character. The adit level north of the valley, on the No. 3 lode, is looking kindly, producing 8 cwt. of ore per fm.—Pranal: The 70 south, on the Amantina lode, is improved since I last wrote, now producing 6 cwt. of ore per fm. The 30 south, on the Amantina lode, has laid open ore ground for a length of 40 metres, but the end is now poor; this piece of ground has been set on tribute at 60 francs per ton of ore—50 per cent. The stopes and tribute pitches continue to yield fair quantities of ore. The tribute pitches of Brot and Barbecot are still turning out a little ore, which leaves a profit to the adventurers. Everything throughout the mines is in a good course of working, and we see no reason to fear keeping our returns at about 200 tons of ore per month. We have now full water for our lavers at Baser, and the little engine from England arrived at the mine yesterday, which will quickly be put in readiness to work; so that we shall have full crushing power, which will prevent the recurrence of a similar drawback to the one we experienced last year.

THE NEW GRAND DUCHY OF BADEN MINES (Munsterthal) have advised to May 17.—At the Schindler Mine, the lode in the old (or engine) shaft, sinking below the 34, is worth about 200 per fm. The lode in the 34, driving south, is worth 300 per fm. In cutting down the bottom and eastern side of the north level to a proper size, we have broken some good saving work, and in squaring forth to the end the lode has improved, now worth 200 per fm. We shall commence driving here very shortly. Our progress at all these points of operations is satisfactory. At the Teufelgrund Mine the lode at Lousen's level is producing 7 to 8 cwt. of ore per fm. At Wilhelm's level it is producing 7 cwt. of ore per fm., and at Frederick's level about 6 cwt. per fm. At the smelting works, campaign 7 is finished, and we intend to commence campaign 8 on Monday next.—S. RICHARDS.

THE WILDEBORG MINING COMPANY have advised from Capt. Z. Walls, to May 15.—We started the steam-whim on Thursday last, and find it to work well, and on Monday next we intend to commence hauling for good. The underground bargains, on an average, are looking well. The end driving west, at the deep adit level from the No. 3 sink, is communicated to the driveway east from No. 2, the tramroad is laid and we have now facilities for stopping the backs; we hope also, in the course of a few days, to communicate the same level to the driveway east from the No. 1 sink; this fine course of ore will then be laid open for back stopes, and the ore removed to Carter's shaft by the tramroad, and hauled by the steam-whim. Our prospects at present, in the western mine, are much better than for sometime past, as the water in Beck's sinks is somewhat decreased, and ten men have taken there on tribute. Should no unforeseen hindrance occur, we hope to break, bring to surface, and dress about 200 tons of ore during the course of the present month. Mr. Gourdy reports from the smelting works that the various operations are progressing satisfactorily, and that he will forward to Cologne about 85 tons of lead as the produce of the campaign.

THE DUN MOUNTAIN COPPER MINING COMPANY state that the survey by Mr. Hackel is being proceeded with, and a circumstantial report is promised from that gentleman within two months from the date of last letters (Feb. 12), until the arrival of which it is impossible to form an opinion upon any correct data of the value of the property or the measures to be adopted. In the meantime, although the rails sent out will have reached their destination, no expense has been incurred towards forming the rail-road, that being delayed until further information is acquired. The directors hope to receive Mr. Hackel's promised report in time to lay before the general meeting of shareholders in July next.

THE CENTRAL AMERICAN MINING COMPANY have reports from A lotape to April 2.—During the last month we dispatched to Yzabal 197 bags of first-class silver ore, each bag weighing 6 arrobas net, making upwards of 13 tons. The total weight of ore already remitted to Yzabal up to March 31 is about 49 tons. The stopes in the mine of San Pantaleon are still holding good; they have yielded the past month 2½ tons of which 11 tons is first-class ore; and there is every probability that the vein in these points will continue highly productive; double the above quantity, or more, of best ore could be extracted from these stopes if considered necessary, but 11 or 12 tons are as many as we can send away in a month. The scarcity of hides for making bags precludes the possibility of doing more. In the eastern ground in San Pantaleon, there is nothing new save the disordered state of the lode in San Damasio end. What appears to be its wall was yesterday cut into, after driving a short distance on a small branch having a slight northerly bearing.

Mining Report for the Month ending March 27.—San Pantaleon: San Vicente level has been extended east, by two men, 2½ varas, at \$5 per var.; the lode in this end is 1 ft. wide, and at present poor. In consequence of the disordered state of the lode in the San Damasio level, produced by a horse of ground, which came in about three weeks since, there has been only 2 varas driven east on its course, by two men, at \$5 per var. Delay has been occasioned by cross-cutting and driving on branches to discover the direction of the lode; this I am sorry to state, has not yet been satisfactorily proved; consequently, instead of the proposed winze, I have set a rise in Dolores level some 6 varas in advance of the present end; this will be hoisted to the above level about the time when the end is advanced the before-mentioned number of varas, and being carried up on the course of the lode, must clear the doubt as to its position. In Dolores level 2½ varas have been driven east, by two men, at \$7 per var.; the lode is 20 in. wide, and contains a little ore, but I am afraid that there will not be any material alteration take place in the vein until the ground changes, which has been very hard for some time past. The winze sinking from San Vicente to San Damasio level has been sunk 4½ varas, by two men, at \$4½ per var.; the lode is from 15 to 18 in. wide, presenting a very promising appearance, and is improving as the winze is deepened. No. 1 stope, in the back of San Damasio level, has been worked by two men and a boy; the lode here is still looking well, and producing 12 cwt. of rich ore per fathom. In No. 2 stope, in back of same level, the lode, which has greatly improved during the month, is worth 1 ton of rich ore per fathom, wrought by two men and a boy. The ore branch in No. 1 stope, in back of Dolores level, is 4 in. wide, and will produce from 6 to 7 cwt. of rich ore per fm. The ground is rather hard in this stope.—Dressing Department: Since Feb. 27, 21½ tons of

ore have been extracted and returned from San Pantaleon Mine, consisting of 8 tons 13 cwt., assaying 359 ozs. of silver per ton of ore; 2 tons 7 cwt., assaying 278 ozs.; 4 tons 9 cwt., assaying 177 ozs.; and 6 tons 3 cwt., assaying 93 ozs. of silver per ton.

THE WORTHING MINING COMPANY remark upon the mines surrounding the Bremer:—The Kammantoo Mine has been at work under a company, of whom Mr. Sidney is the principal, for about two years. For a long time their raising did not exceed, say, 20 tons per month. During this period they were trying to make the mine pay its way, by taking every bit of ore they could see and having no tutwork going. At last they changed their plan, and sunk and drove on the course of the lode, sometimes in dead ground, and sometimes in ore. They are now raising 70 to 100 tons per month, and we understand are more than paying their way, although the ore is of a low per centage; but perhaps this is mainly to be accounted for by having their own smelting works. At the Wheal Friendship Mine a steam-engine was put up to drain the mine to the 20. At this level a great many fathoms have been driven, the lode regular, and about 20 ft. wide, containing some black ore, but very little saving work. At one part a few stones of copper pyrites were met with, producing about 24 per cent.; this induced a few persons to join Mr. Bird (who was working the mine alone) to sink the shaft another 10 fms. The shaft is now down between 25 and 26 fms., and but a short distance from the lode, where several small droppers of yellow copper are met with, showing very strongly in favour of the lode being of the same character. This mine is of especial interest in our case, because it is situated on the same run of lodes as the Bremer, and the ore below the 12 or 13 partakes of the same nature and character as the Bremer in the shallow workings. It is expected that the lode will be cut in the shaft within a month from this time; the result is looked to with much interest, as it will go to show whether the usual changes in well-defined lodes are met with here the same as in Cornwall. At the surface the lode was small, showing iron, gossan, with quartz and copper; good bunches of carbonate ores were met with to the 10, and some 300 tons were raised. During the present working the carbonates are found to continue to about the 12, when dead ground comes in for a fathom or two, and then the change takes place to black ore, with mundic and iron. At the 20 the lode is poor, as above described, and it now remains to see whether the next change is not into yellow copper of a permanent character. We shall inform you of the result of the deeper sinking when we learn what it is. There is also another mine, the Mount Barker Creek, at work, situated about four miles west of Bremer. Considerable quantities of carbonates have been raised there, and they are found to continue to about 12 fms., where the lode becomes poor, and at 16 fms. still poor, but carrying black ore, and on driving to the hill the lode improves somewhat, carrying black and yellow ore. At this mine the ore has paid the expenses for the last five or six months, and we feel confident that Bremer would have done the same, and more, had it not been for the water preventing our sinking. You will judge from these details that the district in which the above mines are situated is a mineral one, and no doubt that there is a large and profitable field for the employment of capital. We feel that one instance of success by perseverance will be a test for many other properties in the same district, as well as other parts of the colony, and, therefore, take deep interest in watching the progress of these mines as they develop themselves.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

WHEAL FLORENCE.—The history of this mine forcibly illustrates the advantages sometimes derived from the application of a little scientific knowledge. The mine, which is situated near Lydford, Devonshire, was unsuccessfully worked some years since down to the 10 fathom level, below adit, for lead, and after considerable outlay was abandoned as valueless, in ignorance of the fact that the richest silver ore, perhaps ever discovered in the country was left standing in the back of the adit and levels, and even interspersed amongst the refuse at surface. Yet such was the case, as has been since proved by a careful analysis. Within the next few days 7½ tons of this valuable ore will be sampled, and this before the mine has been fairly put to work, and while the 10 is still under water. When the value of the ore, and the economy of working so shallow a mine, with the advantage of abundant water-power for all purposes are considered, it must be evident that Wheal Florence holds out prospects of great and immediate results.

WEST TOLVADEN.—A gentleman who has just visited this mine informs us that the lode is 1½ ft. wide, producing 2½ to 3 tons of copper ore per fm., worth 10/- to 12/- per ton. Specimens of the lode blasted off in its present state have been forwarded to London: one stone, weighing between 2 and 3 cwt., may be seen on Monday next, at the office of Messrs. J. J. Reynolds and Son, Royal Exchange-buildings; and also at the office of Mr. J. D. Brunton, Waterloose-place, Pall-mall. The present operations are limited to the sinking of a shaft, to test the lode at the junction of the granite.

CROWNDALE.—The lode in the winze sinking below the 30 fm. level is fully 12 ft. wide, 4 ft. of which is very rich quality ore, worth at least 120/- per fm.; this is quite a distinct lode, and is going both east and west in unexplored ground. The ground adjoining this cut, East Crowndale, has been taken, and a cross-cut will be put out from the shaft to cut the same, the lode, which cannot be far off.

HINGSTON DOWN.—In the last 3 fms., driving east in the 65 and 75 fm. levels, a great improvement has taken place; these levels are considerably in advance of the others, consequently a new bunch of ore, and may be said to be opening quite a new mine, being 130 fms. to the east of the shaft.

NORTH FORTESCUE.—This young mine presents brighter prospects and greater promise than at any previous period. In addition to the lodes opened on, as noticed in your Journal some weeks since, we have now intersected another north and south lode of great promise, some hundred fathoms east of the one where the gossan is so impregnated with silver. The lode just now cut is close to the eastern side, which runs nearly due north and south, while the lode itself has a bearing of almost due east of north and west of south. I intend to open on the course of the lode to intersect the flookan, to ascertain the appearance at the junction, then cut through the flookan course to see what effect it has on the lode. Close to the flookan, on the eastern side, is a lode stone, composed of gossan and quartz, of large dimensions—perhaps, 20 cwt. or more, which I calculate has not washed far from the lode; however, the problem will very soon be solved, and I hope North Fortescue will ere long be a productive mine.—W.M. VERNON.

BROWDA MINE (near Callington) is the sett alluded to three weeks since as all taken up, and the capital paid in at the first meeting—a rather rare occurrence now-a-day. We visited the mine, and found what is called a vigorous working—three coateening pits down to water, and lead work raised from one of them, with spots of lead in the others; an engine-shaft sinking as fast as men can put it to the 20 fm. level; it is already down 7 fms., a little soft killis, having strings of quartz and mundic dipping into the lode. At 12 fms. a cross-cut is to be put out to cut the lode at that level, when lead is expected; this lode was originally found by men in draining a marsh, and was searched for by many parties subsequently, one of these actually drove many fms. within a foot of the lode, but missed it. Further perseverance disclosed it to the present captain, who is determined to work it with spirit. Materials to set the mine going were purchased for a trifite at the Butterdon Mine, and are already in action at Browda. There is nothing like ready cash in mining.

HOLMBUSH MINE.—We hope our informant may have been in error respecting this mine, when he stated that it is not looking quite so well; we trust that he may have been misinformed. Time will show, and the returns be the best proof. Our desire is at all times to call correct information, and neither to deify or unduly praise mining properties.

MARKE VALLEY MINE.—An important discovery has been made at the 20, where a lode has been cut to be worth 80/- to 100/- per fm. for copper ore; this will most likely enable this mine to resume dividends. The company richly deserve their reward, having persevered most manfully. This discovery should put the Dunsley Wheal Phoenix people in heart, as it will be of importance to their property to have so good a next-door neighbour.

PENCORSE CONSOLS.—From the reports of the captain of this mine, as well as from those of our correspondents at Leeds, the head quarters of the mine, it would appear that it will at length become remunerative; it has struggled long against prejudice and unskillful management. It is gratifying to see mines giving such evidence of wealth after hope being so long deferred. This mine was brought out by Mr. George Henwood in 1852, and now seems likely to realise his predictions, although delayed beyond his promises and expectations.

FREAK OF NATURE.—There is in the possession of Capt. Rowe, of Callington, a very curious stone—chalcocite quartz, covered with common quartz crystals; at the back is a patch of hornblende rock, on which grey chalcocite had first formed; this has been overlaid by pure white stone of the same denomination. In splitting the stone from its *locus* a miniature of a person was revealed, about the size of a man's finger; the eye is formed by the dark coloured rock, and the opaque stone on the semi-transparent quartz displays the features; when held against the light it is plainly developed. It is an exceedingly curious stone, somewhat like the celebrated Egyptian pebbles in the British Museum, where Chaucer's portrait is shown; this is equally curious, and is valued extremely by the proprietor, who takes great pleasure in showing it to any persons curious in such matters. As a freak of nature or chance in fracture it is a rare specimen; no intentional effort would have produced this appearance.

SOUTH CALLINGTON.—Mr. Henwood's report on this mine is being verified. I have seen to-day some rich work for lead broken from the discovery this week in driving the 15, and it is the general opinion of the neighbourhood that the mine, which has been carried on by late by two or three adventurers, will very shortly become a good property. Capt. Evans has of late inspected this mine.

CORNISH JASPER.—We are glad to find that our remarks on this subject have elicited attention. Preliminary steps are about being undertaken to test the commercial value of this substance, specimens having been sent to town for this purpose; we shall watch the subject with considerable interest, as, if successful, it will afford another instance of valuable mineral property being neglected through carelessness and ignorance, which may be rendered valuable by the aid of science and capital.

THE CONSTANCIA LEAD MINING COMPANY.—A company has just been formed for working the mines of Constancia and Tarsis, situated in the Sierra de Gador, in the south of Spain, only a few miles distant from the populous and rich town of Béjar, and with easy and constant communication with the ports of Adra and Almeria, which are reached in a few hours by steamer from Malaga. The Sierra de Gador is the richest and most economically worked of the lead mining districts of Spain, yielding annually from 15,000 to 20,000 tons of pig-lead, which is chiefly exported to Marseilles and America. The pertinencias, or mining grants, owned by the company are secured to the commissioners in perpetuity under royal titles, on the usual conditions of the mining code of Spain. The capital of the company is fixed at 16,000/-, in 3200 shares of 5/- each. One-half the whole capital, or 1600 shares fully paid-up, have been allotted to the concessionaries as payment for the mines and plant, and 400/- is added for ores raised and work done. Professor Ansted is the managing director, and the other members of the board are men of high standing in the City of London, and the conduct of the mines in Spain has been, and is, entrusted to Mr. Frederick Burr, an experienced mining engineer, and by long residence familiar with the customs and people of Spain. Prof. Ansted, in reporting upon the mines, states that the works at Constancia, at present in active operation, are two—one for discovery at the boundary, next Guerrero, to cut a course of rich ore known to enter the ground from the south; and the other for ore discovered from another shaft. The prospects of Constancia Mine are, in all respects, most favourable, as sufficient reserves exist to secure a supply of ore during the rest of the current year, while the trial works from the boundary shaft may at any time lay open the course of ore which has proved so profitable in the neighbouring mine. The works from the south shaft continue to develop the ore floor there discovered. The Tarsis sett is crossed by several courses and veins of ore limestone, from some of which ore has been extracted near the surface, whilst others have been cut at a moderate depth in the adjacent mines.

Messrs. Von Dadelszen and North write (May 21)—“We have to-day received advice, per telegraph, that the sale of tin by the Dutch Trading Company, will be held on the 6th of July next, at Rotterdam, and consist of 183,034 slabs, with liberty to add 10,000 slabs, if arrived in time. In lots of 500 slabs each, prompt 6th of Sept., and no further sale to take place till 1st June, 1856.”

Mining Correspondence.

BRITISH MINES.

ABBEY CONSOLS.</b

present; everything seems to indicate and promise future success; the mines themselves, too, are in the most satisfactory position. Few, if any, of the wild speculations so rife and ruinous at periods of prosperity are in the market. Adversity has taught all the necessity and practice of economy, which is now the rule and not the exception. Our list of dividend mines gradually increases; many are on the eve of entering it, many more are just paying their way. It will be noticed by the attentive observer the calls on mines requiring advances are much less than heretofore. We can assure our friends and capitalists generally mining is in a thoroughly sound state as a whole, and that state is founded on a basis as legitimate and enduring as any kind of security whatever. In taking this view of the matter we would, however, warn them against being led away by false statements and gilded gogaws, for such there are and such there will be, if an undue excitement prevail, which is not at all improbable. The public are prone to extremes that it is difficult to restrain it, more particularly when a mania for getting suddenly rich possesses it; however, as yet, no symptoms present themselves; should they, we shall deem it as much our duty to curb them as to encourage legitimate pursuits. We repeat, we hail the improvement in the standard, small as it is, as a step in the right direction, and a gratifying augury for the future.

At the sale of copper ores at Truro, on Thursday, the standard was 139. 9s.; produce, 54; price per ton, 57. 5s. 6d. Taking into account that this was the sale of Devon Great Consols, and other eastern ores, and that the expense of carriage is greater than from the western mines, this may be considered an advance on the standard of the previous week, though not to the amount of more than about 17. 5s. In comparison, however, with the previous monthly sale, on April 22, of Devon Great Consols and other eastern ores, the advance at the sale on Thursday was considerable, amounting to 67. 2s. on the standard, and 7s. per ton of ore—making a difference, to the advantage of the miner, on the total sale of 4855 tons, to the amount of 16397. more than same ores would have realised at the sale on April 22.

From Melbourne, by the ship *Guy Mannering*, 8575 bags of copper ore and 1857 bags of silver ore have arrived. The *Granite City*, from Sydney, has brought 4094 bags of copper ore. The *Bristol*, from Adelaide, brings 1588 tiles, 995 cakes, and 28 ingots of copper, besides 1880 bags of copper ore.

At Liverpool, yesterday, about 185 tons of copper regulus, ex *Blencathra*, were sampled, for sale on June 1.

At Wheal Buller meeting, on Tuesday, the accounts showed—Balance last audit, 1749. 1s. 9d.; ores sold (less dues), 55641. 0s. 11d. = 74941. 7s. 8d.—Mine cost, March, 1322. 2s. 6d.; April, 11651. 11s. 5d.; merchants' bills, 9451. 0s. 1d.; income tax, 10s.; leaving balance in favour of adventurers, 41017. 8s. 6d. A dividend of 25601. (10/- per share) was declared, and after payment the balance to next account was 15417. 8s. 8d. The net profit on the two months' working was 23611. 1s. 1d.

The directors of the Devonshire Great Consolidated Copper Mining Company, at their weekly board meeting, held yesterday, declared a dividend of 8122. (8/- per share) out of profits arising from sales of copper ores sampled in the months of Jan. and Feb. last. After payment of the same, there remains in hand a balance of 26,0621. 13s. in cash, ore bills not at maturity, and reserved fund, applicable to the general purposes of the company.

Carn Brea Mines declared their 97th dividend, 3d. of 2d. per share, yesterday—making 2112. 10s. already paid on each 1st. share.

At Levant Mine meeting, on Tuesday, the accounts showed—Balance last audit, 9182. 1s. 9d.; ore sold, 33251. 2s. 6d.; copper ore sold, 13892. 17s. 4d.; carriage bills, Jan. to March, 44941. 0s. 3d. = 58411. 16s. 6d.—Mine cost and merchants' bills, 34021. 3s. 3d.; leaving balance in favour of adventurers, 1761. 19s. 5d. A dividend of 3d. (2d. per share) was declared.

St. Ives Consols during the week has declared a dividend of 30s. per share.

At Wheal Ball meeting, on May 11, the accounts showed—Tin ore sold, 1500. 0s. 10d.; use of stamps, &c., 13s. 1s.; call received, 1261. = 16131. 1s. 10d.—Balance last audit, 692. 7s. 6d.; mine cost, Jan., Feb., and March, 5521. 3s.; dues, 341. 8s. 8d.; merchants' bills, 34021. 3s. 3d.; leaving balance in favour of adventurers, 1761. 19s. 5d. A call of 10s. per share was declared. Capt. H. Trezise and J. Bennets reported that they had 23 pitchers working, by 64 men and 9 boys, at an average tribute of 15s. 8d. in 17.

At Berriow Consols meeting, on Tuesday, the accounts showed—Balance last audit, 1097. 14s. 6d.; labour cost, 2097. 10s. 1d.; merchants' bills, 791. 0s. 10d. = 398. 6s. 5d.; calls received, 2501. 2s. 6d.; leaving balance against mine, 1487. 6s. 5d. A call of 10s. per share was made. Capt. Henry Taylor reported upon the position and prospects of the mine; it seems to be gradually improving, and they are hoping to have a further improvement when it reaches the killas.

At North Levant Mine meeting, on Wednesday, the accounts showed—Balance last audit, 662. 14s. 4d.; mine cost, Jan., 2601. 19s. 4d.; Feb., 2591. 13s. 1d.; March, 2549. 17s. 2d.; merchants' bills, 2381. 9s. 2d. = 10721. 14s. 2d.—Tin sold (dues, 1-2d., 14s. 5s. 9d.), 10182. 1s. 3d.; leaving balance against adventurers, 547. 0s. 1d. The accounts were passed.

At the Duke of Cornwall Mine meeting, on Tuesday (Mr. R. McCallan in the chair), the accounts showed a balance against the mine of 6841. 19s. 6d. The committee were re-elected. The Duchy have reduced the dues during pleasure to 1-60th. A call of 5s. per share was made. Capt. Wm. Roberts reported that the mine appeared a fair speculation, and likely to repay a liberal outlay.

At East Wheal Russell Mining Company meeting, on Monday (Mr. Foster in the chair), the accounts showed a balance in favour of adventurers of 581. 13s. Resolutions were passed that the ore be sampled at the end of the current month, instead of waiting two months, and a vote of confidence in Capt. Goldsworthy. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At East Wheal Falmouth meeting, May 11, the accounts showed—Balance last audit, 411. 18s. 6d.; ore sold, 7551. 10s. 7d. = 8171. 6s. 1d.—Mine cost, Feb., 292. 19s. 6d.; March, 2011. 12s. 1d.; discount, 61. 10s. 11d.; leaving balance in favour of adventurers, 3272. 5s. 8d. The agent reported that the 30th level had intersected a lode called Tyack's lode, and the strata very congenial for lead. A winze sinking below the 29, on Chennall's lode, will produce about 1 ton of lead and jack per min. There are 19 men employed underground, including the kibble-filler, and a man to do the pitwork, &c.

At the North Buller Mining Company meeting, on Monday (Mr. J. E. Mathew in the chair), the accounts showed a balance against adventurers of 61. 16s. 5d. A call of 7s. 6d. per share was made, and a resolution passed to forfeit all shares in arrear of call made Feb. 15, subject to restoration by the committee. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At South Lady Bertha Mining Company meeting, on Monday (Mr. W. Watkins in the chair), the accounts showed a balance against adventurers of 92. A call of 1s. per share was made. Messrs. Watkins, J. Batters, Fuller, J. Robertson, Oliver, and C. Robertson, were appointed the committee of management, and the proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman.

At Tyn-Wyndford Slate Company meeting, on Wednesday (Captain Strode in the chair), Messrs. Monk, Cullinan, John Phillips, Sims, and Captain Strode, were elected directors. A resolution was passed to forfeit shares in arrear of call if not paid within two months. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At North Wheal Wrey Consols a considerable improvement has taken place in the bottom level; the lode is now 2 ft. wide, and producing good work. They are also daily expecting to meet with the western lode in the cross-cut in the 20.

At Wheal Glynn (Bodmin), during the week, a great improvement has taken place; a fine lode has come into the shaft 7 fms. under the 24, worth at least 25/- per fm., and with the best indications for further improvement.

The Alten Mining Association are in expectation of the arrival of a parcel of copper from the works, which is now on the way to its destination. The annual meeting of shareholders will be held in the first week of June.

In the Foreign Mine Share Market, during the week, a good business has been done in Marquita at 7s. 1d.; Worthing has been flat at 8s. 6d.; General Mining Association of Nova Scotia, in fair demand at 19s.; Cobre, 45 to 48s.; St. John del Rey, 13 to 13½s.; Linares, 9½ to 9¾s.; Bon Accord, ½ to 3½p.; Santiago, 2 to 2½s.; Australian Land, ½s. and a good business doing. In other descriptions scarcely any alteration.

In American Securities, the market continues active. There has been, during the past week, a good business doing in most of the State, and in several of the chief City stocks. Rail-road bonds are out of favour, and the transactions in them have been on a very limited scale.

From Leeds, our correspondents (Messrs. Gledhill and Co.) inform us that the unsettled state of the Continent, together with the expected change of the Ministry, has thrown a gloom on all share transactions. The mining interest has suffered to a great extent, still there is an evident improvement in the confidence of the public in this description of property, and we expect ere long to see them take the lead. Those intending to invest in this description of property had better take advantage of the present opportunity. Several of our Yorkshire mines have improved, and there is increasing confidence in the speedy realisation of dividends from many of the progressive mining companies. The Helvellyn Consols have cut in the new level only begun last month. Capt. Mus (May 15) reports—At the Consols, we have cut a very kindly working thing, and if it is not another vein it is a very strong feeder to the one that we are expecting to cut—the No. 2 lode; it looks well; I long to see it—that you may rely upon we do just now.

Our Sheffield correspondents (Messrs. Smith) report a dull market, and the only transaction has been the Eyan Mine at 46, which is 1s. lower than previous sales. New Midland rather firmer, and buyers at ½ per cent.

Our Hull correspondents (Messrs. Flint and Co.) report that business has been almost at a stand-still in the share market during the week. Although money is abundant, it is not so, generally speaking, in the hands of parties who are share buyers, but when the trade of the country improves we look for more activity.

GOLD IN OREGON.—In the House of Commons, last night, in answer to Mr. Christy, Lord Stanley said that within the last two months there had been a considerable quantity of gold discovered in the district lying between Frazer's and Thompson's Rivers, in British Oregon. Two years ago there were some discoveries of gold in Vancouver's Island; there had been no recent information concerning those discoveries.

Mr. Henry Edward Murrell has advertised for sale by auction, on June 8, sixteen 28th shares in the Vigras and Clogau Mine, under an order of the Court of Chancery made in a cause Goodman v. Robinson and others.

The *Gazette* statement of the movement of the precious metals for the week ending Wednesday last gives the following large totals:—Imports of gold, 1,345,652.; exports of gold, 477,208.; imports of silver, 79,620.; exports of silver, 8355.

The Return of the Bank of England for the week ending Wednesday, May 19, compared with the previous weekly return, shows the following results:—

Circulation issued	£1,624,700	Increase	£141,553
Circulation active	20,282,030	Decrease	96,223
Public deposits	4,735,910	Increase	1,886,741
Other deposits	13,972,601	Decrease	1,971,483
Government securities in banking department	10,026,403	Increase	1,000,000
Other securities in banking department	14,876,707	Decrease	534,228
Coin and bullion in both departments	17,926,980	Increase	1,297,273
Seven day and other bills	850,125	Decrease	27,412
The rest	3,210,632	Increase	5,441
Notes in reserve	11,351,770	Increase	237,930
Total reserve (notes and coin) in banking department	12,119,950	Increase	225,608

The movement under the heads of coin and bullion and reserve is satisfactory, but not of much importance. The principal alteration is in the securities and deposits. The Bank have taken the million of new Exchequer Bonds just created, and this operation explains the enormous increase in the Treasury balance. The decrease in the "other" securities is upwards of half a million.—*Daily News*.

At the Oriental Bank Corporation meeting, yesterday (Mr. H. G. Gordon in the chair), the accounts showed a net profit, on Dec. 31, 1857, after defraying current charges, and providing for all bad and doubtful debts, 156,029. 16s. 3d. The report stated that the assistance rendered to the London and Eastern Bank had not been so effectual in protecting the shareholders of that company as had been hoped and anticipated; litigation amongst themselves and some of their creditors having complicated and delayed the liquidation of their affairs. As regards the claim, however, which is fully secured, there is every prospect of its speedy settlement. The Chairman, in moving the adoption of the report, congratulated the meeting that after the troubles and anxieties of the past year, they were able to present such a satisfactory statement. The insurance account was most gratifying, and they hoped out of it to have a large amount to divide in addition to the ordinary profit of the bank. The report and accounts were unanimously adopted. A dividend of 11. 15s. per share, in addition to 11. 5s. already paid, was declared. A resolution was also passed that the remuneration to the directors be raised from 2400/- to 4000/- per annum. The retiring directors were re-elected, and a vote of thanks to the Chairman and directors terminated the proceedings.

The extension which is taking place of the system of limited liability, a trial which occurred in the Court of Queen's Bench should receive particular notice. The secretary of the "Saltash Waterman's Company (Limited)," had accepted two bills on account of it, for an aggregate of 1057. The drawer of these had omitted the word "limited," and the secretary, in accepting them, failed to notice the neglect. The company having failed, an action was now brought against the secretary, on the ground that he was personally liable under the section of the Act of 1856, which declares that such liability shall arise if any officer of a limited company shall "sign, or authorise to be signed on behalf of such company, any bill of exchange, promissory note, endorsement, cheque, order for money or goods," &c., in which the title of the company is used, with the word "limited" being introduced. The case was so clear, that Lord Campbell at once directed a verdict to be found against the secretary for the full sum.

RAILWAY TRAFFIC.—The Traffic Returns of Railways in the United Kingdom for the week ending May 15 amounted to 438,7901., and for the corresponding week of 1857 to 452,2301., showing a decrease of 13,4401. The gross receipts of the eight railways having their termini in the metropolis amounted for the week ending as above, to 177,5171., and for the corresponding week of 1857 to 183,4971., showing a decrease of 58801.

The decrease on the London and North-Western Railway amounted to 52461. on the London and Blackwall to 1191.; on the London, Brighton, and South Coast to 1011.; on the London and South-Western to 9661.; and on the South-Eastern to 4531.—total, 688551.

But from this must be deducted 1077, the increase on the Eastern Counties, 4367, on the Great Northern, and 3621. on the Great Western; together, 9051.; leaving the decrease, above, 528901.

The receipts on the other lines in the United Kingdom amounted to 261,2731., and for the corresponding week of last year to 268,7351., showing a decrease of 74601. in the receipts of those lines, which, added to the decrease on the metropolitan lines, makes the total decrease 13,4401., as compared with the corresponding week of 1857.

THE IRON TRADE.—Although there is not much advance, the trade is looking up, and the demand has increased during the past few weeks. Messrs. Samuel's furnaces, at Birtley, are to be put in operation again on June 1, and we understand, two of Mr. Cochran's will be re-lighted about the same time. The following are, we believe, about the present current prices of the Durham and Cleveland iron, free on board, at Middlesbrough:—No. 1, 56s.; No. 2, 54s.; No. 3, 53s.; and No. 4, 52s. Messrs. Snowdon and Hopkins' furnaces, are nearly completed and will be opened shortly. A correspondent says—The pig-iron trade of Cleveland remains much in the same position as it has done since the commencement of the year. The demand continues very slack, and prices show very little symptoms of improvement. The unsettled state of political matters, no doubt, tends to prejudice business. Should the present Government find themselves supported by the House, when Mr. Cardwell's motion of the vote of censure comes to a division, it will tend much to the advantage of the general trade of the country, and diffuse confidence among the mercantile community.—*Stockton and Hartlepool Mercury*, May 22.

THE NAUTILUS DIVING BELL.—We learn from the French papers, from which we, in another portion of our Journal, give some short extracts, that this important improvement in submarine operations has been submitted to the scientific men of France, and that they warmly approve of its usefulness and simplicity. Mr. Ballelli (the banker of New York) who has had the honour of introducing the "Nautilus" to the consideration of this country and France, must, we think, be satisfied with the high commendations which have, in both countries, been given to the energy and ability which he has evinced in the formation of this important submarine invention.

MINES ACCIDENT.—A "run of ground" took place last week in Ballesine mine and placed in great danger the lives of a man and a boy. Suspicion was first excited by the discovery that their above-ground clothes remained in their place long after the time for coming up to change had gone by. On going down into the mine it was some time before any steps could be taken to search for the missing ones, in consequence of the great change in the appearance of the ground, but at length a man called Martin Wallish succeeded in making himself heard by them, and, by spilling through the shaft about 6 ft., an entrance into their dark dungeon was effected. The man, James Edwards, and the boy, Henry Edwards, stated that they bored a hole about ten o'clock the previous day, when the ground gave way; they continued calling as well as they were able, but at length became so much exhausted that they gave up everything as lost. They were got out about one o'clock on Friday, having been shut up 27 hours in their dreary dungeon. The greatest credit is due to Messrs. Clemens and Treahar, the agents, and to Peter Harvey and Phillip Edwards, the timbermen, for the exertions they used to get the sufferers out.—*West Briton*.

REFUSAL TO ALLOW INSPECTION OF A MINE.—On May 8, Mr. Lenderyon and Mr. Charles Hawke, of Truro, who are adventurers in East Wheal Falmouth, sent Capt. Burrows to inspect that mine, giving him a written authority for doing so, which he presented to the managing agent, Capt. Hancock. The latter refused to allow the inspection, and in consequence Messrs. Lenderyon and Hawke made an application on Tuesday last to the Vice-Warden of the Stannaries' Court, who immediately granted an order for the inspection.—*West Briton*.

TO ENGINEERS.—WANTED, A SITUATION AS MANAGER, or GENERAL FOREMAN.—Has been some years engaged in the above capacity, and possesses a thorough practical knowledge of the engineering and millwright business, railway machinery, plant, &c. Has been accustomed to make estimates, specifications, working and other drawings, &c. Testimonials and references as to ability.—Address, stating terms and requirements, to "J. B.," care of James Scott and Son, Crossan Office, 26, Fleet-street, London.

WANTED, AN ENGAGEMENT AS FURNACE MANAGER.—Testimonials and reference can be had, if required, having had 10 years' experience in one of the largest ironworks in South Wales.—Address, "M. K.," Mining Journal office, 26, Fleet-street, London.

WANTED, A PARTNER IN A BLAST FURNACE.—Recently erected in the West of England, and commanding unusual advantages from the proximity of iron ore and coal, which are being obtained at very low rates.—Further particulars, as to capital, &c., may be obtained on application, by letter, to "X. Y. Z.," care of W. E. Chesser, Esq., 5, Queen-square, Bristol.

TO CAPITALISTS.—A GENTLEMAN, who has extensive and first-class machinery at work in the heavy branch of the Sheffield trade, and is practically acquainted with the manufacture of iron and steel in all its branches, is anxious to OBTAIN A PARTNER, who has sufficient capital to put down other machinery for the purpose of manufacturing steel and other iron suitable for the Sheffield trade.—Apply to Mr. Wm. Unwin, solicitor, Queen-street, Sheffield.

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JOHN HENSHAW WILLIAMSON, MANUFACTURER AND REFINER.

Reference.—Professor Miller, King's College, London.

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MAPS OF MINES.—Preparing for publication, and will be ready this summer, the following Maps of Mining Districts.

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PATENTS, SEVERAL THOUSAND: A CLASSIFIED CATALOGUE OF SUBJECTS: with "ADVICE TO INVENTORS ON PATENTS, CAPITAL, AND CONTRACTS."

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Notices to Correspondents.

•• Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly *Sted on receipt*: it then forms an accumulating useful work of reference.

WESTERN AFRICA MALACHITE COMPANY.—We have made enquiry about the tenure of this company's property in Africa, and find that a concession direct from the Portuguese Government has been preferred by the shareholders, and that, upon formal application, a promise of one has been obtained, and is now in course of preparation. This concession will be in perpetuity, in conformity with the mining laws of Portugal. With respect to the disposal of the further number of 200 of the vendor's shares, it is in accordance with the wish of the parties, who have joined in the enterprise, that so large an interest as 600 shares should not remain in the vendor's hands, but that at least 200 should be distributed amongst an increased number of holders. This distribution has already commenced, and Messrs. John Taylor and Sons are empowered to nominate holders to the extent of the 200 shares. Every information about the concern will be given on application at the office of the company, in Queen-street-place. In the correspondence received by the *Cleveland* steamer last week appears the following interesting passage from the Governor of the province, who is also at the head of the company's works, and which is very valuable, as showing that the company intend to stand by the prospectus issued on its formation:—"I fully agree with the other part of your letter, and I should say, with respect to not employing slaves in the works, that I consider this not only in conformity with the dictates of humanity, and the positive orders of my Government, but it is even combined in this country with the principles of economy, for there are plenty of free men here who will work for 100 heads per day, equal to 60 rel. hard money, or 2d., and this for working days, without any other expense with them, which is not the case with the slaves, who have to be fed daily, taken care of when sick, and clothed at the expense of their masters, thus becoming more expensive than free men."

FEAT AND ITS PRODUCTS.—In the specification of M. Chlandi's invention, lately filed by Mr. Henry, of the Patent Agency, 84, Fleet-street (referred to in last week's Journal), it is stated that peat gas may be usefully employed for lighting purposes, by constructing burners in such manner as to restrict the supply of air to the flame, so as to keep the carbon in suspension, which forming highly heated particles, the intrinsic illuminative properties of the gas are advantageously developed. The specification further describes a new manufacture of fuel, produced by immersing peat coke in thick distilled peat tar, and subsequently carbonising it in a peculiar retort. The inventor also specifies an apparatus for distilling peat tar, in which high-pressure steam is used as a heating agent. In the course of some of the operations gases and oils are obtained, which may be turned to advantageous account.

BATING OF MINES.—The session is now half over, and the committee for watching the interests of the miners may congratulate themselves on the fact that they have obtained another respite, as it is too late now for Mr. Nicholas Kendall to bring forward any bill. As it is not improbable that a dissolution will take place, I would recommend all those concerned in mining in the county to remember those gentlemen who wish to rate mines. Mr. Sawle lost his seat at Bodmin through his advocacy of rating. We know not how soon this contingency may occur; let the electors be up and doing, and not allow a few of the landocracy to oppress and blight the most important branch of industry in the country.—CAPEL: Redruth.

BOLMOUTH MINE.—On enquiring at the office in London I find that no account has been received of the extraordinary mishap at this mine, reported in your valuable Journal last week. Whatever may be the intention of the parties supplying you with such statements, the well-known respectability of the directors, and the high character of the captain, must be a sufficient guarantee that if there were any truth in the information it would not be kept from—AN OLD SHAREHOLDER: City, May 29.

BOSSTIE AND CANADA LEAD MINING COMPANY.—The directors of this company I have no doubt are actuated by the best intentions; a certain place we have been told is paved with them. Two of the gentlemen on the board have great experience in mining. I allude to the honourable Member for Finsbury, now so well known at St. Stephens for his historical knowledge, and his colleague Mr. Jas. Crosby, in addition to his experience as a director of the Linlithgow Mining Company. This latter gentleman was formerly on the board of the Dulecarlia, which mine was purchased from the Swedes, abandoned by the English as worthless, and is now being profitably worked by the Swedes, so that it is not likely he will err on the side of an improvident risk. The mines have already been worked by Americans; and giving our directors all due credit for caution, I should wish to enquire, how it is that Brother Jonathan should have been so generous as to afford us such great advantages, when he might have retained them all himself?—QUEEN.

CHANCELLORVILLE FREEHOLD.—As this company, despite the numerous applications made to them, appear to give no explanations, we may reasonably infer that Mr. Josiah Harris's magnets have not rotated so efficiently as was desired. Might I suggest, if the works at Frodsham are not in the hands of the sheriff of Cheshire, that the directors would kindly allow Mr. Squires, with the gold mining shareholders who have confidence in his operations, to make a trial of the celebrated works, so much vaunted in the columns of the *Times*.—SCPTIC.

MINING TOURISTS.—Should any of your numerous readers be making a geological tour for collecting specimens, or studying *in situ*, I advise them to visit a small mine called Tredarup, in the parish of Warbstow, about one mile off the high road from Launceston to Camelbridge, near the Halworth Inn, where they may procure, on the burrows, some extremely rare and beautiful examples of contorted slates, many of them of extraordinary character. Broken as they are by chance, they partake of better form than the most careful specimen-hunter could possibly achieve with his hammer, whilst the proportion enables him to select as to size and quality. These are found on the lower burrow of the adit; here also may be found exquisite examples of that difficultly explained subject—slate cleavage; the sedimentary or depository laminae are distinctly shown by variously coloured strata, whilst the place of crystalline cleavage is easily ascertained by splitting the stone; it will be found the rhomboidal form prevails. Large quantities may be had for the trouble of visiting the spot, where also capital stone for razors are in abundance, as well as slates admirably adapted to the manufacture of school pencils; these are found in the higher burrows. In some of the stones, on minute inspection, fossils may be discovered, but they are scarce. This adit has been driven to uncover a large north and south iron lode, which may be plainly seen in a pit sunk a few feet from the surface. In an adjoining field the student may have an opportunity of seeing a deposit of manganese ore of fine quality for its depth; and in a few feet he may procure the black oxide and steel-like ore, of fair quality as specimens. The place is well worthy a visit for these purposes, which are interesting and eminently instructive, particularly the cleavage and contortion of slates. I have procured specimens than a whole day's picking could furnish them. I visited the spot with an accomplished mineral and geologist, who expressed his high gratification, and, of course, furnished his collection with the best specimens he could find. Plenty are left for those who visit the place, although they have been well searched by your old friend.—G. H.

STEEL MANUFACTURE.—I presume we shall this week have Mr. Sanderson's reply to "Eisenstein," as his remarks certainly put rather a thick covering over the merits of Mr. Sanderson's process, and appear to have some truth in them. It has, however, not been sufficiently explained whether there are any real defects in the inventions of Besemer, Martin, Musket, and Binks which will prevent their success, or whether it is merely sound practical knowledge that is wanting. I am at a loss to ascertain where the novelty in Mr. Sanderson's process is, and think he should give a more detailed description than has yet appeared, and explain in what way the cyanide of potassium is superior to Binks's cyanogen compounds. If one process answers well I do not see why the other should not. As to Musket's steel (I allude, of course, to the samples at your office), there can be no question as to its excellence; it only remains for Mr. Musket to prove that it is the result of his process. Mr. Sanderson seemed to infer, at the Society of Arts, that there was doubt upon that point, and with what truth I do not know. If the steel at your office is produced as described by Musket he must succeed, for his steel is as far superior to Mr. Sanderson's metal as that gentleman's metal is to the commonest pig-iron; at least, that is my opinion.—B. C.

MANUFACTURE OF IRON.—The question as to whether the process patented by Captain Uchatin will enable steel to be produced as promised, ought, I should think, to be finally settled, as I learn Mr. Lenz is again in England. As he has been charged by Mr. Musket with foisting a rail upon the public as the result of Capt. Uchatin's patent, which was manufactured by Mr. Musket by another process, Mr. Lenz cannot remain silent, unless he desires to be branded as an impostor. He should state what has been done at Elbow Vale Company, and also whether steel has been successfully produced by the process in Austria and France. I have not heard that it has. It should also be stated whether ordinary British iron has been used in the English experiments, or charcoal iron only, as it would be of little advantage if charcoal iron alone can be used. Mr. Lenz proposes to sell steel at 8s. per ton, and as you quote India charcoal pig at 7s. 10s., there would be but a small amount left for paying the expenses of converting. I shall anxiously look for Mr. Lenz's statement in your next, and no doubt many of your readers will do the same.—M. R.

GREAT WHEAL BUSY.—The letter of Captain Pascoe, though in type, is withdrawn. Several of the statements being found, on enquiry, to be incorrect, while its general tenor is objectionable.

NEW POLGOOTH AND WOODCLOSE.—Some six years since this concern was started, under the auspices of the late Mr. George Thomas, of Great Polgooth notoriety, when I was induced to apply for a few shares, on which I paid the deposit. Shortly afterwards a call was made, and finding they were valuable in the market, I preferred forfeiting them to handing out more cash, and there the matter rested. Judge, then, of my surprise at now receiving a communication, making a demand upon me for the expenses of winding-up, &c., with the threat of legal proceedings, if not immediately complied with. I wish, therefore, to know whether it is possible to make me liable in this regard? as I am determined to resist it as unjust?—W. E. RICHARDS: Islington.

GOLD EXTRACTION.—I learn that a process is to be tried at Atolepeque by the Central American Mining Company, for extracting gold from the ore by the use of iron pyrites as a flux. Can any of your correspondents inform me wherein the system to be adopted differs from the well-known Mansfield process?—R. G.

THE HARWICH AND ANTWERP STEAM NAVIGATION COMPANY.—In a pamphlet by Mr. S. B. Rogers, of Nant-y-Glo, published at your office 14 years since, I find the first mention of establishing a regular passenger communication between Harwich and Antwerp, which would undoubtedly offer great facilities for communication with the Continent. The nearest route established is that from Harwich to Rotterdam, and this is in the hands of private individuals, who managed to establish a lucrative trade at the expense of the London, Harwich, and Continental Steam Packet Company (Limited). Why could not a company now be formed for running vessels from Harwich to Antwerp? It would materially add to the profits of the Eastern Counties shareholders, and therefore, probably receive their support.—J. H.

"T. C. S." (Baker-street).—In the blast furnace when a quantity of anthracite is used it is subject to depreciation to such an extent that it chokes the furnace and suspends all operations. The only resource the smelter then has is to put on a fierce blast and absolutely blow it out. Some anthracites contain as much as 95 per cent. of carbon.

ADELAIDE LAND AND GOLD COMPANY.—The liquidators endorse to the fullest extent the observations of "N." in your last Journal. They have, ever since their appointment, seen, and continue to see, the propriety of rendering an account of their stewardship, and have done so, by giving the shareholders inspection of every voucher, document, and despatch, as the same is sent to, or arrives from, the colony; thus imparting to the shareholders the same amount of knowledge the liquidators themselves possess.

What the liquidators have not done, and what they decline doing (having a regard to the interest of the shareholders) is to give to parties not shareholders, and not interested in the company, information by means of which such parties, and not the shareholders, would benefit from any contingency that might arise.—HANCOCK AND SHARE.

WEST PHOENIX MINE.—Mr. G. W. England, and other shareholders, are anxious that the affairs of this company should be finally settled. The indisposition of the auctioneer, he considers, should not cause delay. He also complains that his letters of enquiry are not now even replied to.

GOVERNMENT INSPECTION OF MINES.—Had there been officials here, as in Germany and other countries, where there is a recognised mining code, the inhabitants of Hanley would not have had their town undermined. The bergmeisters in Hanover, Saxony, and Prussia, are authorised to interfere in the management of mines only to this extent—to see to the safety of the workmen and the superincumbent surface. Many of the houses in Hanley are built on pits which have been abandoned, and filled up with loose earth; that these should sink and crack is, I believe, a matter of surprise to no one. I have been surprised that previously there has been no notice taken of this; I can only attribute it to the circumstance that those who are on the surface at Hanley are equally as reckless as their neighbours underground.—A LATE VISITOR.

TREVELyan MINE.—If "A Shareholder" be what he professes, he can obtain the information required on application at the office of the company, 13, George-yard, Lombard-street.

WHEAL GUSKUS.—The period when the meeting of this mine should be held has now elapsed for some period. We were told when last we met that several of the defaulting shareholders had been put in the Stannaries Court. I was of opinion that the jurisdiction there was of the most summary nature; but, judging from the long period that has elapsed since the subject was first mooted, I am led to believe that the process will be given on application at the office of the company, in Queen-street-place.

WHEAL ZION.—In your last you have a paragraph to the effect that Wheal Zion is abandoned and to be wound-up. This is a mistake; that all unprofitable work in the old mine is stopped, and the adit driven to explore the Giebeland, where it is expected a mine will be found.—A SHAREHOLDER.

LEVANT MINERAL COMPANY.—Notwithstanding the various correspondence that has taken place with regard to this company in the columns of the *Mining Journal*, hitherto the directors have not thought proper to publish any account of the last year's transactions. When the prospectus was first issued they stated that the mineral resources of the Turkish empire were about to be developed under their auspices; and according to all accounts that have come to hand they have merely confined their operations to the raising of emery, and that in an inconsiderable quantity, in the island of Naxos, the mines there having previously been worked by the Greeks. I certainly do not assume that they have displayed any bad faith to those of the public who have embarked their money in the undertaking, but this is a fact, and it is also a well-known fact that the performances have fallen very short of their promises, and this demands some explanation.—DEMOCRITUS.

CARDIFF PRESERVED COAL COMPANY.—I see by your last Journal that this company is progressing satisfactorily; but I hope those who think of becoming shareholders will ascertain whether the patentee has received, or is to receive, either in shares or money, or both, any consideration for his patent before the shareholders receive 10 per cent. dividends. An advertisement states that the patentee will receive nothing for his time and skill before the shareholders get 10 per cent., but it does not say how much he will obtain for the use or purchase of his patent, or for any other benefit conferred by him, and my two former letters to you upon this subject have had no reply.—CARBON.

MINING IN NORTH AMERICA.—Can any of your correspondents who are shareholders in any of the following mines inform us what dividends they have paid or are likely to pay to their fortunate proprietors?—Liberty, London and Virginia, L'Aligre D'Or, Waller, Mount Carbon, Chancellorsville. I am induced to ask this question, as I perceive a prospectus has been issued to work mines somewhere in Canada, which formerly belonged to an American proprietor, as all of these have done.—IGNORANCE.

"Ennor is Ennor Still."—The letter from Tavistock could only appear with the writer's name attached.

MINING CONGRESS.—I agree with your suggestions, that if such a meeting as is now held in Vienna were convened somewhere in England it would be productive of great good. It is to be regretted that we have here no regular mining code, some districts being governed according to local regulations, while others are subject to the common law of the land. To persons unacquainted with their different rules the subject becomes one of great difficulty; and I am convinced that more persons would embark their capital in mining adventure if they were cognisant of the several and varying rules which exist. A meeting such as this would excite discussion, and tend to diffuse a great deal of useful information; but I fear, whilst the present jealous feeling exists among our mining agents, that any attempt at an amalgamation or interchange of knowledge will be futile. When education is more diffused, and unhappy and jealous feelings rooted out, we may then have some hope that our miners will assume that position among those of foreign countries which hitherto their own dogged obstinacy has prevented them from attaining.—ALPHIA.

MR. GEORGE HENWOOD, having visited most of the mines in the Callington and Launceston districts, will be at Lostwithiel and Liskeard during the next week. Persons desirous of availing themselves of Mr. Henwood's assistance, regarding the prospects or status of mining properties of these localities, may obtain every information or reports by addressing a letter to him, at the post-office of these towns, when attention will be paid to all such communications. Mr. Henwood was underground at Wheal Bray on Thursday last; his report of the mine appears in another column.

ANGLO-CALIFORNIAN GOLD MINING COMPANY.—Your correspondent, "Lex," is quite correct in his estimate of the liquidators of this ill-fated association: neither to shareholders or creditors do they condescend to afford any information. I have heard it said that the late superintendent would render no account; this, however, is not true. Surely there must be some law to compel them to do this, and it is surprising to me that Mr. Coombe, with the influential body of shareholders he represents, has not had recourse to the Court of Chancery. I am convinced of this, that if any were energetic enough to move, they would be supported by the general body of shareholders, who are tired of procrastination, and the continuous delays which have obstructed the progress of the company from its first formation until the present time. If Mr. Luke Williams had always been at the helm the property would long since have been finally wound-up. Instead of having to subscribe an extra shilling per share, to be frightened away in hotel expenses and race horses in California, we should probably have had some portion of the capital returned to us. I do not, however, see how, although we had the best location in California, our affairs could have prospered, seeing that our sapient directors appointed in the first place to carry on mining operations a naval knight commander, who fancied he had at Woolwich dockyard an arsenal at his command to repair all machinery; and when, after he had hopelessly mortgaged the property, the gentleman appointed to supersede him was a mate in the merchant service, as if a knowledge of ploughing the waves was a recommendation for delving in the bowels of the earth. It is useless now, however, to recur to bygones—our business is with the present, and that is to compel the liquidators to give some statement as to the position of the company. It appears we are all but insolvent, yet we have a staff and chambers in Gresham House—*curbom sat*.—PREMIUM: *Pool*.

SUBSCRIBERS IN AMERICA.—Our friends in America are informed that they can obtain the *Mining Journal* by ordering it from a bookseller in any of the principal towns in the United States. Mr. Tribner, of Paternoster-row, is the London agent, and sends parcels by every mail to the principal booksellers and news agents there.

GOLD EXTRACTION.—If there is a company being formed for such an object as stated in the *Mining Journal*—to extract gold from quartz too poor to pay the cost of the ordinary process—the shareholders will deserve to lose their money. Had the public been aware of what is doing in regular gold establishments abroad, such absurd schemes would not be noticed. I beg leave to furnish the following results for the month of March, of the gold establishments of which I am the consulting engineer:—1250 tons of quartz and slate, of the average value of 5 dwts. of fine gold per ton, stamped and dressed on the established system, produced about 3½ dwts. of fine gold per ton. Total cost, £276. Produce, \$4350: profit, \$1691. Let those who waste their time in gold extracting schemes, and who have not been able to make quartz pay which they alleged contained upwards of 1 oz. of gold per ton, reflect on the above results. It is high time to put a stop to such absurd and deceptive speculations as those alluded to by some of your correspondents.—EVAN HOPKINS.

VICTORIA IRON AND CEMENT WORKS (Whitby).—I am much obliged to Mr. Harrison for his explanation; it fully confirms the opinion I formed as to the cause of the late catastrophe. The total thickness of the ironstone seams referred to in my letter was taken from Messrs. Palmer and Co.'s section. I was aware some of the beds, especially the dogger, band, got thinner to the south, but I had no opportunity to measure them. I hope the company will in future be well advised, and confine the operations to the paying business—mining in the best iron seams, and ship the raw product. The upper seams are good, and may be easily

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in English iron-works. It will no longer be possible almost to disregard the waste of material that has become habitual, and appeared unimportant while material was in such excessive abundance and so readily accessible. This waste has existed both in the case of ore and fuel, and is likewise enormous in every stage of the production and working of iron. In the blast furnace twice as much fuel is used as appears to be necessary according to chemical principles. A considerable percentage of iron is sent to the tip in the state of cinder which ought to be reduced to the state of metal. In refining and puddling from 10 to 20 per cent. of the pig is converted into slag, richer in iron than most ores, but in such a state that by smelting it in the blast furnace with other ores the quality of the iron produced is deteriorated. In the mill, again, where the operation is merely mechanical, there is a further loss of some 15 per cent. of the iron.

That such waste as this is not by any means indispensable is evident from the fact that great improvement has been effected as to the consumption of fuel in smelting. It has been calculated that a ton of coal ought to produce a ton of iron, and in one establishment this result has been nearly realised, the average make per furnace for the year ending March, 1857, being upwards of 21 $\frac{1}{2}$ tons per week, long weight, and the quantity of coal used, including engines, hot-blast, and kilns, was 1 ton 2 cwt. 3 qrs. This fact alone, compared with the amount of coal that is generally consumed in smelting iron, is quite sufficient to justify the opinion that we are on the eve of a complete revolution in blast-furnace management. As to the waste of material generally, the means of improvement are to be derived almost entirely from chemistry, and, consequently, it is sound policy to recommend that the ironmasters should take the chemist into their counsel; that they should place within his reach the best practical experience of the works; give him a fair opportunity of making experiments; and above all that they should remember that success is not always to be obtained by the first or even fifth attempt, but only by patient perseverance through repeated failures.

With such opinions as this prevailing in the minds of our practical metallurgists, we may reasonably hope to attain a position in metallurgy that will be worthy of comparison with our position as practical workers. By the science of metallurgy, too, it must not be supposed that we understand merely the doctrines of the lecture-room, or the theories of the study, the scientific folly of the *dilettante*, but positive data and results which have a direct and applicable relation to practical working, which will be at once intelligible and serviceable to practical men. Such metallurgical science can unquestionably be created only by a combination of extended practical experience and thorough scientific knowledge. Neither alone will make any sure and progressive advance, but together, in metallurgy, as in anything else, they will not fail to bring about the desired results.

The formation of the South Wales Institute of Engineers may be regarded as a very important step towards realising such a combination of the two kinds of ability, as well as towards effecting numerous other desirable results conducive to the improvement of metallurgy. Even as a medium of communication alone between those engaged in the management of mining and metallurgical works, the influence of the institute will be far from unimportant. The situation of works at a distance from each other in remote localities has had the effect of limiting the possibility of engineers benefiting by each other's experience, for meeting seldom they have had but few opportunities for the interchange of ideas, or discussion of questions relating to their pursuits, and hence, as was remarked in the president's address, every man has been, as it were, working single-handed.

In addition to the improvements to be effected by the application of chemistry, equally important results may be looked for from the substitution of machinery for manual labour. The chief difficulty to be encountered here is the transmission of power, rather than its production, which is a matter of comparatively small cost in the iron districts. The conditions under which this transmission of power is to be effected are singularly unfavourable, but a recollection of what has been done in the adaptation of machinery will well justify the belief that when skill and invention shall be as fully directed to the requirements of miners and metallurgists, inventions will be brought to bear that are not less startling in their novelty and importance in their results than those which have already been the object of wonder and admiration in other branches of industry.

The attainment of these and other important results appears to be the object that has given rise to the South Wales Institute of Engineers; and fully impressed with the especial value of such an endeavour to improve the condition of any industrial art, when it originates among those who are practically engaged in it, we anticipate for this institute a long career of usefulness, and a very influential turn in determining the future progress of our iron industry. In all respects we wish them every success and prosperity, and hope soon to see the example followed in other of our mining and metallurgical districts.

The shares of railway companies have not for some time occupied the position in the market to which many consider they are entitled—a circumstance probably resulting from the large amount of preference or guaranteed capital which the several companies have issued. Unfortunately, the original shares in these undertakings are not all that capitalists could desire; but attention might well be directed to investment in that portion of their capital entitled to guaranteed or preferential dividends. The fairest mode of proceeding is, undoubtedly, to compare this description of railway stock with Consols, and this has been ably done in a small treatise on guaranteed securities,* by Mr. J. WHITEHEAD (of CARDEN and WHITEHEAD, Royal Exchange-buildings). He has collected, and carefully arranged, the particulars of the guaranteed shares and stock of the several railway, gas, canal, and other companies; and in remunerating upon the results obtained has some valuable information to capitalists.

It was explained in Mr. WHITEHEAD's former work (entitled *Railway and Government Guarantee: Which is Preferable?*) that preference shareholders are creditors, possessing equitable, but not legal, rights; and that they must be satisfied before surplus revenue can be set apart for future ends. If there be surplus revenue they must be paid their pre-agreed and just claim, or they can enforce payment in a Court of Equity by compelling the directors to account. As to the preference shareholder having claim on the succeeding year's revenue for defalcations in that of the preceding year, it may be stated that where, as with the Great Northern B shares, the Act of Parliament states that the preference shall accrue *on the profit made within the year*, it is clear that if the 6 per cent. guaranteed in that case by the A holder to the B holder be not earned in any particular year, the profits of the succeeding years cannot be held liable for the short reckoning of the bygone year. Generally speaking, the preference share is created with the right *per centum per annum*, which, if it mean anything, establishes an account; and if the revenue of any one year be unequal to the preference claims on it, the next or following years must stand debtors—the ledger account showing a credit which has not been satisfied. Such was Mr. WHITEHEAD's opinion in 1848, and in 1858 it has become standard authority. The judgment in the Great Northern suit may aptly be considered the "preference shareholders declaration of rights." With such a recognition of preference rights in their possession as that judgment contains, shareholders may rest in peace. No more suits in Equity will be undertaken to cripple preference rights; and, if the Legislature will hereafter reject all appeals made to it to alter preference share contracts, the repudiator will hide his robber-head, and preference securities will, as they should, be amongst the most stable in the kingdom.

Railway repudiation is not, as many imagine, of Great Northern parentage; and, though the South Yorkshire Company be a too willing disciple of the repudiatory school, as a matter of history it should be recorded that the Caledonian Company was the first to try its canny hand at the game, with what success the Caledonian Arrangement Act, which received the Royal Assent on the last day of the session of 1851, is the answer. There can be but one opinion that, as a question of abstract justice, a great moral wrong was committed by the Legislature when it passed such an act of spoliation as the Arrangement Act really was. It has been alleged, moreover, that the plea of overhanging insolvency which was set up by the promoters of the Caledonian Arrangement Act was a sham and deceit practised on Parliament.

The decision of the Court of Chancery having raised preference share engagements into debts to be liquidated out of the first available profits of the assuring companies, the basis on which those engagements rest, compared with that they occupied previous to the decision, has been materially widened. The law now rules that, unless specially guarded otherwise, if one year's profits are not equal to the stipulated interest the default made will fall on succeeding years. A ledger account will, in fact, be established, and whenever an unliquidated balance is shown, the same must be carried forward as a debit against future profits, to be satisfied out of them before

the unguaranteed shareholder can pass one penny into his own pocket. If maliciously disposed, the worst the latter can do is to apply profits to capital expenditure; but this, though legal, would be too openly dishonest to be carried to any injurious extent; such a contingency is, in truth, too remote to be worthy of serious consideration in the dry question of investment. Where, therefore, sufficient profits are made to satisfy the claim of the preference shareholder, his position varies but little from that of the guaranteed shareholder. The real difference lies in this, that whereas the former can only look to profits for satisfying his claim, the latter can look to property, and can enforce his right at law. In a word, the preference exists as a claim which may be enforced; its character is passive; the guarantee exists in the nature of a demand which must be met; its character is active. The former shareholder is dependent, and must wait; the latter is independent, and may act.

It is then shown that a larger annual income may be derived from investment in railway guaranteed than from national guaranteed stock. The best selection of guaranteed or preference stocks which an investor can make to choose from is of those which have sound parent companies to back them. No conjunction is needed to make such selection, and then a mere acquaintance with relative merits and prices is all that is necessary to determine the ultimate choice. By the latest published parliamentary railway returns it appears that the total amount of guaranteed and preference capital of all the railways in the United Kingdom was 57,057,171 $\frac{1}{2}$, the aggregate annual interest guaranteed being 3,227,778 $\frac{1}{2}$. If to this great total the capital which has been guaranteed by the East Indian and colonial authorities be added, it will be seen that an interest-bearing security of immense magnitude (100,000,000 $\frac{1}{2}$, at least) has sprung up within the last 20 years, to become greater still as the formation of railways is encouraged in British dependencies. The amount of guaranteed railway stock in English hands cannot be estimated; it must, however, be very considerable, and will, doubtless, swell into a great total, should money for any length of time become the comparatively valueless commodity it seems likely to. Enough has been said to show the character of Mr. WHITEHEAD's book: all interested should carefully peruse it for themselves.

Is it desirable to permit the liability of shareholders in Joint-Stock Banking Companies to be limited? The reply given to this enquiry, whether it be put to bank shareholders, capitalists, or the public, is by no means unanimous, and it is certain that much may be said on both sides. For ourselves, we contend that if the principle of limited liability be correct there is no reason why the shareholders in banking companies should not be entitled to avail themselves of the privileges accorded to other shareholders. The chief question for joint-stock banks, under the present system, is how to induce the greatest confidence in the minds of the public, so that they may obtain the largest possible amount of depositors, and thus have a far larger capital to trade with than that provided by the shareholders. The mode in which these banks have obtained the confidence they seek, is by proving to the public that their directors are trustworthy, and their managers careful and competent for their duties. How far they have succeeded may be judged from the fact of the London and Westminster Bank alone, with a capital of 1,000,000 $\frac{1}{2}$, being entrusted with deposits to at least ten times that amount.

It can scarcely be considered that this amount would be trusted to the care of a joint-stock banking company simply on the consideration that the shareholders are unlimitedly liable, and regardless of the integrity or competency of those conducting its affairs; for surely the majority of depositors would be as much inclined to rely on the securities held by the bank as upon the ability of the shareholders, for they may be assured that where the shareholders have to be applied to the result is very unsatisfactory. The confidence of the public is all that a bank, well and honestly conducted, requires; and the way a limited bank must secure that confidence is to fix the capital at a large amount, have the shares all allotted, and but a small proportion of the nominal value of the share paid upon each; thus aluminized banking company, with a nominal capital of 5,000,000 $\frac{1}{2}$, divided into 50,000 shares of 100 $\frac{1}{2}$ each, would be, so long as not more than 10 $\frac{1}{2}$ on each share was paid up, quite as safe for depositors as any existing joint-stock bank; and there would be little difficulty in ascertaining the number of shares subscribed for, and the amount of calls paid up, since in the bill proposed by Mr. HEADLAM it is provided that "Every joint-stock banking company shall, before it commences business, and also on Jan. 1 of every year during which it carries on business, annex to a copy of the Memorandum of Association a statement of the number of shares issued, and the amount of deposit or calls made on each share, in the form contained in the schedule hereto, or as near thereto as circumstances will admit, and a copy of such memorandum, with such statement annexed thereto, shall be put up in a conspicuous place in the registered office of the company; and if default is made in due compliance with the provisions of this section, each director shall be liable to a penalty not exceeding 5 $\frac{1}{2}$ for every day during which such default continues, and such penalties shall be recovered in a summary manner." The form of the statement to be annexed to the Memorandum of Association is:—

The number of shares issued is 10,000. Calls to the amount of 20 $\frac{1}{2}$ per share have been made, under which the sum of 180,000 $\frac{1}{2}$ has been received.—Dated Jan. 1, 1859.

As to the great value of the principle of limited liability we have already expressed our opinion, and are prepared to maintain that the extension of that principle to banking will be productive of general good. Greater banking facilities will be offered to the public by a system of competition being introduced, and commerce generally will be materially assisted by the encouragement which an improved banking system will offer for speculative individuals to embark in joint-stock companies formed for carrying out commercial undertakings.

At the annual meeting of the GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND, one of the proprietors stated that it was a standing reproach to the company that there still should be due to the Church and School Fund a sum of 19932. 3s. 7d. These sentiments found a willing echo from all who were in the room. The same generous feelings we have heard enunciated at previous meetings where this important subject has been mooted; but, unfortunately, though many of the proprietors have promised to subscribe, yet, so soon as dividends are received, they forget to ask the secretary to deduct the sum necessary to pay their *quota* to the Church and School Fund debt.

We have received from several correspondents various suggestions as to how this debt should be liquidated; it has been proposed by some that it should be written off the general account. On the other hand, it is said that if such should be done the whole burthen would fall upon the stockholders, who have already embarked so large a capital, receiving but a minimum rate of interest, and not upon the preference shareholders, who, since the resuscitation of the company, have every year had punctually paid to them their 7 $\frac{1}{2}$ per cent.

In the hamlet of Michaelstone-super-Avon, where the works are situated, according to the report of 1853, it appears there is a population of not less than 6500, of which fully three-fourths are Welsh, and the remainder English. The whole population, with the exception of a very few persons, are entirely dependent on the works of the company. Were it necessary we could comment more diffusely on the report; this, however, is foreign to the subject. The Governor and Court, both collectively and individually, it appears from the subscription list, have liberally contributed towards the liquidation of the church and school debt, and had the preference shareholders, who have received their dividend of 7 $\frac{1}{2}$ per cent. for six years regularly, consented to have foregone but a small proportion, there would have been no necessity for these constant appeals being made to their philanthropy, which the majority, it appears, respond to in public, but negatively in private.

The Governor, Mr. GILBERTSON, and several other gentlemen, whom it would be invidious to mention, have nobly subscribed, in order that proper spiritual and educational aid should be afforded to the operatives employed on the works; and at the annual general Court some gentlemen generously came forward and offered to subscribe certain sums of money, provided others would do the same. This is all very well in its way, but the matter ought not to rest here, or be solved in this manner. There can be no question but that on this subject all those who are connected with the establishment are intimately concerned; a well-directed and properly organised community are better able to be ruled, and will effect much more work, than a disorderly rabble without any governance of their passions or control of their feelings, ruling themselves on the axiom—"Sufficient for the day is the evil thereof."

Since the resumption of the works by the company, it would appear that the desire of the Court has been that not only the material condition of the labourer should be ameliorated, but likewise that his moral position should be enhanced. The progress of those who have availed themselves of the

advantages afforded to them by the company's schools can be seen by referring to the reports of the Government Inspectors of Schools. From these it is shown that the disciples of the Cwm Avon school are not only able to compete with the other diocesan establishments, but that, in many instances, their acquirements are superior and more solid.

The appeals to assist this good work, which have hitherto been made to the proprietary, have met, as yet, with little response from the general body. According to the charter, an annual meeting must be convened in April, to discuss the accounts and declare the dividend. A very full attendance is generally found there, and the church debt is merely alluded to when the general business is concluded. If the Court were to call an extraordinary meeting, solely for the purpose of discussing the subject of the Church and School Fund we are inclined to imagine, there being no other subject before the proprietary, that in the accounts of 1859 this reproach and disgrace would no longer exist.

The BOA ACCORD COPPER MINING COMPANY recently held their first annual meeting, and, judging from the proceedings, it is probable it will become a highly profitable undertaking. There were certain facts elicited which prove the estimation the property is held in by parties resident on the spot, and best calculated to obtain correct information. The Hon. GEORGE HALL, who has been for some years a director of the famous Burra Burra Mine has resigned his seat, in order that he may devote his whole time to the Bon Accord: Mr. HALL, who is a member of the Legislative Council, has associated with him the Hon. ABRAHAM SCOTT, another member of that body, and Mr. TAYLOR, a partner in the well-known firm of ELDER, STIRLING, and CO., merchants of Australia. Capts. KILLICOAT and JEFFREY, who were recently in the employ of the Burra Burra Company, have also joined the Bon Accord; and they state that they have watched the mining operations of the former company from first to last, and anxiously observed the heaves and slides of the Burra Burra lode, and that a small outlay will prove the truth of their representations, as they will point out the precise spot where they believe the copper is to be found, and give practical directions as to the manner in which the mine should be worked so as to save time and needless outlay. Perhaps no stronger proof can be given of the opinion of the value of the property entertained by Capts. KILLICOAT and JEFFREY, than the fact that, with the exception of a small amount to cover their preliminary expenses, they make their remuneration dependant upon realising a net profit of 10,000 $\frac{1}{2}$ for the proprietors, and that within one year and nine months from the time of commencing operations, or to forfeit all fee or reward. Whilst every exertion has been made in the colony the proceedings at home have been conducted with the greatest care and economy, and reflect great credit on the directors and their able secretary; for although only half the capital has been subscribed, the interest upon the balance in hand, after paying 24,000 $\frac{1}{2}$ for the property, has been more than sufficient to meet the whole of the preliminary expenses, and the amount in hand applicable to develop the mine reaches nearly 12,000 $\frac{1}{2}$, the whole of the arrears being only 25. 10s., out of 37,500 $\frac{1}{2}$. The despatches received by every mail will be looked forward to with great interest; and, as the well-wishers of mining in all parts of the world, we heartily wish the Bon Accord Company success.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

[FROM OUR CORRESPONDENT IN SOUTH WALES.]

MAY 20.—Although a single week cannot be expected to produce an entire change in the state of business throughout our large district, still a very perceptible alteration has occurred here within the last few days. It may be only one of those delusive spasmodic revivals to which we had occasion to refer last week, but the present consequences at least are satisfactory, and part of the dreary prospect which surrounded us is removed. The docks begin to be full of shipping once more, and at the present time rather large quantities of railway iron are being sent away. The supply of coal is still larger than the demand, but owners seem to feel more confidence, and to entertain less apprehensions of a long continuance of depression. We cannot conceal the fact that within the past few months hopes have been excited by similar incidents, only to be disappointed by another change, which appeared to place us farther than ever from the desired point. The slightest signs of activity were regarded as the forerunners of a certain period of prosperity, but, with scarcely an exception, these expectations have not yet become realised. In individual cases support may have been received sufficient to prevent any difficulties from being experienced; but these instances are rare, and few indeed are the ironmasters who have not suffered unavoidable losses. We can only repeat our hope that the present indications of the approach of a more favourable time will lead to a substantial result, and that we shall speedily pass through an unfortunate season.

Although the demand from Germany and France—both large consumers of iron, &c., from this district—is by no means according to the usual rate, still the preference always shown for our produce continues to be manifested. The German demand is almost as important to some works as the American; and the fact of both being uncertain just now operates, of course, disadvantageously. Since our last report, however, several orders have been received, giving an impetus to trade in one or two directions. The Tredegar Company always do a large business with the Continent, their railway iron being in great request. In France the annual consumption of it is somewhat large, but latterly, as may be supposed, not so much has been sent. The company, as has been recently shown, have to thank, in no small degree, the narrow policy of the French ironmasters for their success.

We understand that affairs are wearing an improved aspect at Blaenavon. We are informed on excellent authority that the differences between the directors and the shareholders have at length been settled, and a perfect understanding among all parties is said to prevail. By what means the *entente cordiale* has been restored we are not in a position to reveal, but we believe it is certain that one immediate result of it is, that the new forge, so long talked about, is to be commenced without delay, and finished as soon as possible. Indeed, the work has already been begun. This intelligence will afford great satisfaction to the shareholders in the Blaenavon Company, who have long suffered grievously through disputes and disagreements. The works are at present more busy than many in the district.

The Nant-y-Glo Ironworks are going on very steadily, and to all appearance prosperously. Several good orders are now in hand. The management is actively looked after by Mr. Crawshay Bailey, M.P., and the men have given up the idea, which they once entertained in common with their neighbours, of turning out on strike. A good feeling at present exists, and there are even whispers of increased wages, but we have no reason to suppose that there is any ground for such rumours. Terms will not be raised till all the masters are in a position to coincide in the movement; and as they were reduced at one time throughout the district, so doubtless will they be augmented.

We alluded last week to the conversion of what is deemed a public thoroughfare into a railroad by the Tredegar Company. The neighbourhood is still excited on the subject, and the directors are threatened with the penalties of the law. A man was killed on it last Thursday, and an enquiry took place into his death. Nothing of general interest has yet transpired in relation to the matter.

Two more of the men injured in the colliery explosion at Machen have died, thus leaving only one alive out of those present at the time the accident took place. They were all horribly burnt, and suffered great torments. The inquest will take place in a few days.

We mentioned a short time since that the colliers employed by Mr. Josephs in the Rhymney Valley had struck in a dispute about wages. The disagreement has led to the committal of several persons to prison. Some fresh men were engaged to work in the pits, and the old hands tried to induce them not to keep their promise; but when quiet measures failed they foolishly resorted to riotous ones. An attack was made on the strangers, and several of the ringleaders were apprehended, brought before the Merthyr magistrates, and sentenced to two months' imprisonment. It is to be hoped this punishment will act as an effectual warning to the other thoughtless fellows. A printed notice, however, has been placarded about Rhymney, calling the workmen generally to a public meeting to resist the masters, and a strike is not improbable.

There would seem to be no doubt of the fact that the Admiralty have directed South Wales steam-coal to be used henceforth for naval purposes, thus virtually deciding on its superiority over Newcastle coal. Several new contracts are talked of, and it is stated that an Aberdare firm is now engaged to supply 20,000 tons of coal for Government steamers. In Car-

* *Guaranteed Securities: their Merits as Investment.* By JOHN WHITEHEAD. London: The author, and Effingham and Wilson.

diff the matter is regarded as decided, and the rejoicing is great at the triumph over the detractors of Welsh coal. Nothing fresh has occurred in relation to the "trial" spoken of a little while ago. We are sorry to find that at Tredegar the workmen are complaining bitterly of the way they are treated at the company's shop; with their present low wages, the hardship of being obliged to buy everything at a dear rate is felt to a painful extent. It is even said that the bread sold is shamefully short of weight—excessive in cost—*eighteen pence* being charged for a loaf weighing 9 lbs. 6 ozs.! We know that tea, which may be bought at the grocer for 3s. 4d. a pound, is sold at the company's shops for 5s. 8d., or 6s. 8d.—preposterous prices! This is a terrible hardship for the workmen, and we hope to see the day when the truck system will be greatly reformed. We shall shortly present a few reliable facts on the subject, which will show how injurious are the general results of the custom.

An anniversary festival has been held at the Cwmavon Works. The chair was taken by the respected manager, Mr. W. Gilbertson. The proceedings were of a satisfactory and pleasing character.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

MAY 20.—The trade of the past week has slightly improved, and orders have come in more freely. There is also a more active enquiry for rails, for which there are several large orders in the market. The advices from the United States are of a more favourable character. The steel trade is improving, and in the file business at Sheffield several manufacturers have put their workmen on full time. Messrs. Naylor, Vickers, and Co., of Sheffield, the eminent steel merchants, who suspended during the late panic, have issued a circular offering to pay their creditors in full. In November last they were allowed to pay their liabilities by four instalments of 5s. each, at stated periods, the last payment to be made in April, 1859, with interest at the average rate of the Bank of England.

The Coal Trade continues dull; indeed, much more inactive than usual, even at this dull season of the year, whilst from the large stocks on hand at the stations of the Great Northern Company's line, it is not expected that there will be much demand for some time to come in that quarter. Indeed, from all appearances, it is more than likely that there will be a gradual falling off in the company's orders, seeing that they are getting some of their coal from other markets, the coal masters in this district not being able to make a sufficient reduction to keep the orders at home. The reduction of wages in Durham, Derbyshire, Leicestershire, Staffordshire, and Nottinghamshire, enabled the coal masters in those counties to compete with those in this district, where the men have succeeded in maintaining the old rate of wages. However, while there appears to have been a falling off in one important customer, it is gratifying to find that fresh markets are being opened. One of the most important of these is Garston, on the Mersey, about five or six miles from Liverpool. Last year, a comparatively small quantity of coal was shipped thence to America, but there is now every prospect of there being a tolerably good demand. The coal sent out has been principally the Silkestone nubs and steam coal, 20 cwt. and upwards. During the last fortnight about 2000 tons have been shipped. This trade will be further facilitated by the efforts now making for a line direct from Liverpool to Garston. The heavy rates on the London and North-Western Railway between Manchester and Stockport are likely to introduce the south Yorkshire coal to the public of the latter place, a small quantity having already been sent to Guide Bridge, the nearest station to it on the Manchester, Sheffield, and Lincolnshire line. There is a movement amongst the colliers of Derbyshire to work only eight hours per day.

On Wednesday a meeting of the directors of the Mill Dam Company was held at Hucklow, for the purpose of signing an agreement for the renewal of the lease, and also to decide on the site for a new shaft. The terms for the extension of the lease were considered satisfactory, and the agreement was duly signed by the directors. The lease will, therefore, be extended for twenty years beyond the expiration of the present term.

A terrible explosion took place on Monday morning, at the ironstone pit of Messrs. Yates, Carrington, and Co., of the Derby-Jane Iron-works. The pit in which the accident occurred is called the "Hanger Pit," and is 94 yards deep. On Saturday afternoon a quantity of water was cut, which flowed into the works, and in consequence the men were detained until seven o'clock on Saturday afternoon. On Sunday the pumping operations ceased, and no work was done at the pit, except to renew the bucket. On Monday morning the engineer noticed that something was wrong with the pumping apparatus, and as he perceived that there was not so much water lifted as usual, he requested one of the workmen, named Timms, to go down and examine the pumps. Timms accordingly went down to the first lift, which he found in working condition, and believing the defect to arise from the bottom lift, he was drawn up the shaft, protracted his tools, and took down with him his assistant, John Jefferys. This was about twenty-five minutes past eleven o'clock. A miner, named Spike, also went down the shaft to inspect the pit with regard to water, and he found that it had risen in the drifts to within 8 ft. or 12 ft. of the roof. Thomas Bradshaw, the deputy of the pit, and Wm. Biogden, the bankman, then went down to rescue two assses, which they considered were in great danger of being drowned. They took with them a safety-lamp and an oil lamp, and went down the shaft; in about ten minutes after they had been down the explosion occurred, and such was its force that it blew the caps off the heads of the workmen who were near the mouth of the shaft. It is not yet known what damage has been done to the workings. The brick lining of the bottom portion of the shaft was dislodged by the shock, and the debris buried the unfortunate men underneath it, supposing they had been so fortunate as to escape up to that period. As soon after the accident had occurred as possible, two men were sent down the shaft to make an exploration, but the after-damp was so great that no person could be let down with safety. Mr. Richardson, the agent of the works, directed the men to turn the course of the water into the cistern belonging to the top lift of pumps, so as to prevent the increase of water at the bottom of the shaft, and to purify the air. This was done as effectually as possible, and on Thursday the debris had been so far removed as to lead to the discovery of the bodies of Timms and Jefferys. The search for the remaining two is being continued, and it was expected the coroner to issue his certificate for the burial of the bodies, but the nature of the accident will not be enquired into until next week. The names of the four men killed are Thos. Bradshaw, deputy, left a widow; W. Biogden, a widow and five children; Wm. Timms, a widow and three children; and John Jefferys, a widow, but no children. It is to be regretted that the Coal Mines Inspection Act does not extend to ironstone mines, though in this case we believe the responsibility of the accident will rest on Bradshaw, who has sacrificed his own life, and that of others, by using an oil lamp instead of a safety-lamp.

At Bolton, on Monday, Mr. Samuel Scowcroft, of Burden, was summoned for working a coal mine without a proper signal between the surface and the bottom of the shaft. A knocker line was used, and the magistrates were, therefore, not unanimous that the Act had been infringed. It had been universally held until now that shortening down a shaft, or striking a piece of iron, was not a proper signal; and to support these decisions, he must appeal to the judges. It was agreed that a signal should be put down to avoid the necessity of appeal. Mr. Scowcroft was fined £1, for neglecting to ventilate the mine sufficiently, upon a second information; and his underlooker was fined £10., and costs, for permitting two air-locks to be fixed up to close of themselves.

At Wakefield Petty Sessions, John Goldthorpe, engine tenter at Haigt Moor Colliery, Whitwood, was committed to prison for one month for violating the rules of the colliery. On March 2, a man named Crowther, and three others, descended the shaft, and when within two or three feet from the bottom, the cage suddenly stopped. The other three men got out; but, whilst Crowther was in the act of doing so, the engine was again set in motion, and Crowther was partly drawn up the shaft, until his head came in contact with a beam, when he was precipitated out of the cage and killed. Some blame at that time appeared to be attached to Goldthorpe, who, it was stated, had set the engine in motion without the usual signal, thereby violating the special rules and by-laws of the colliery. At the inquest a verdict of "Accidental Death" was returned, but Mr. C. Morton intimated his intention of bringing the matter before the magistrates.

THE IRON AND METAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT AT WOLVERHAMPTON.]

MAY 20.—Taking the general balance of statements, it may fairly be said that the Iron Trade in this district exhibits some symptoms of improvement. In addition to the East India orders there is a rather better home demand, whilst the continental orders are slightly larger. There is not much doing for the United States, but some firms are receiving a few fair orders. There are also hopeful signs presented which give promise of a further gradual improvement. Messrs. Naylor, Vickers, and Co., of Sheffield and Liverpool, who were compelled to suspend payments in November last, have announced their ability at once to resume payments instead of, as was arranged, extending the liquidation of their liabilities to April next year. This firm dealt largely with this district for the American market, and their recovery will very greatly affect the position of one South Staffordshire house, and will benefit the trade generally. The Messrs. Dennis, too, are prepared to anticipate the payment of their third instalment, paying it at the end of this month instead of at the end of December in the case of the London, and at the end of January in the case of the Australian bills. The rapid recovery of these houses gives good ground for hope that the effects of the late crisis are passing away, and tend to strengthen the conviction, which everything has inclined to, that scarcely any really sound concerns have suffered more than temporary losses from the late panic. Their speedy recovery is chiefly attributable to their American assets being better realized than they anticipated, which is also an encouraging circumstance.

The Hardware Trades are, on the whole, a shade better. The tin, and Japan, and hollow trades being rather busier, but other departments are not much improved. The Birmingham trades, which have been more seriously depressed than those of Wolverhampton and South Staffordshire, are gradually recovering, and this is strikingly confirmed by the rapid diminution in the number of paupers receiving relief. On Friday last Messrs. Bradford and Lancaster, iron manufacturers of the Birchills, Walsall, and Greets Green Works, who failed in November last, came up for their certificate. It had been understood that all accounts that could be furnished were to be placed before the assignees between the last examination and the certificate meeting, but it was stated on behalf of the assignees, and generally admitted, that the books of the bankrupts threw no light whatever upon the cause of the immense losses which they had sustained. The balance-sheet commenced in July, 1855, at which time stock was taken. At that time the bankrupts estimated that the value of their works exceeded the amount of the mortgages upon them by a little more than 30000/., so that in fact they had then no available trading capital and but little property, considering that they had three works in their hands. In Nov., 1857, when stopped, they owed to unsecured creditors 42,000/., besides being liable on bills to the amount of 26,000/., and their assets will only realize about 4300/.. It was impossible from their books to ascertain how their losses had occurred, but Lancaster calculated that they had lost 20,000/., by selling iron below cost price. He acknowledged that, although iron manufacturers, buying pig-iron for the purpose of converting it into manufactured iron, they had resold pig-iron sometimes at a loss; that they had sometimes purchased iron, giving their acceptances to Mr. Samuel Griffiths (who was largely concerned with them), and often not receiving the iron at all, but getting other bills to balance the account, and that in like manner they had sold iron when they did not deliver it, but gave bills in exchange. Sometimes Mr. Griffiths sold them iron on contracts, to be delivered at some future time, getting acceptances on account of the future contract. The other bankrupt (Bradford) at once said that, not having had a month's schooling in life, he knew nothing about the books. He stated that when he joined Lancaster, in 1854, he regarded the latter's share of the value of the works as worth 22000/.

and he advanced a like amount. He afterwards advanced 7500/., to buy a works at Greets Green, in which Lancaster had no share. Mr. Griffiths effected this purchase, and had the handsome sum of 5000/., for executing the commission. The result, however, was that apart from bad debts the losses at this work amounted to 1926/.. The bankrupts had never taken stock since 1855, although it is the practice amongst the leading ironmasters to do so every three months. The assignee asked the Commissioner to suspend the granting of the certificate for a considerable time, on account of the reckless manner in which the bankrupts had squandered the money of their creditors. Mr. John Smith, solicitor, on behalf of Lancaster, urged that the iron trade was so uncertain that it was a mere chance whether men gained or lost. Mr. Commissioner Balguy reserved his judgment; and in giving it on Tuesday adopted the view urged by Mr. Smith, describing the iron trade as "extremely capricious" and "peculiar," said persons might go on "losing" in the hope of subsequently "winning." He excused the bankrupts for not keeping books on the ground that they were not men of education, faintly censured them for not taking stock, and regarding the fact of their having put some 10,000/., into the trade and lost it as a very favourable feature, granting them a certificate of the second class forthwith.

The principles laid down in this judgment strike at the very roots of commercial morality. It represents trade, or at least one trade, as a mere matter of luck and chance; it passes over dealings of a character which could have no other result than ruin without a word of censure, and it excuses men having no knowledge of the state of their affairs when they were absorbing in their business thousands of pounds belonging to their creditors, on the score of their inability to keep accounts, which ought to have been a reason for their abstaining from a course of trade to which they were utterly incompetent; and, in a word, it destroys the moral distinction between the successful and the failing man of business, representing the one as merely *lucky*, and the other as *unlucky*.

In 1855 the price of iron was reduced 11/., per ton, from the very high price of 10/., per ton, which is a very good price, and the trade rate was never altered until after the bankrupts in this case failed. True, it was sold at lower prices by such men, as they, being in constant straits, were forced to sell at any price; and if losses were sustained during those two years, it was owing to the existence of such men as ironmasters, maintained by the money of bank shareholders and deluded creditors. The judgment has naturally been strongly censured in this district.

The Working Men's College had a pic-nic party to the Wrekin, a conical hill near Wellington, in Shropshire, forming the termination of the Caradoc range, and rising to the height of 1320 ft. above the level of the sea. A geological party left the train at a station some distance from Wellington, and accompanied by their teachers explored the various points of geological interest presented in a district where there has been a great amount of disturbance, and which, consequently, presents unusual varieties of strata. These picnics, which include ladies, and in which the teachers of the classes join, form a pleasing feature in the new institution. The students returned with a considerable store of specimens of trap, Silurian, and many other rocks.

It may be remarked that the speech of Mr. Ricardo, on the injury to Hanley from mining operations, is a remarkable and almost an absurd exaggeration of the effects of the getting of ironstone there. No doubt some districts have suffered, but the wreck he pictures exists nowhere but in his own brain.

REPORT FROM NORTHUMBERLAND AND DURHAM.

[FROM OUR CORRESPONDENT]

MAY 20.—We have no change of importance to notice in the Coal Trade this week. Freights continue very low.

An accident occurred last week at the Framwellgate Moor Colliery, near Durham, by which one of the workmen was killed. There are two pits at this colliery, which is an expensive undertaking. Two seams are worked by means of one shaft—the Hutton seam, at a depth of 40 fathoms, and the Beaumont seam, at a depth of 80 fathoms from the surface. Martin Cubby, a horse-shoer, went into the Hutton seam for the purpose of shoeing horses, and, after finishing his work, he, it appears, went to the shaft and gave the usual signal to be drawn up. It was found that he was not in it, as expected. It was then found that he had fallen to the bottom of the shaft, which caused his death instantaneously. It is surmised that he, finding the signal to be drawn up not attended to, had attempted to get out of the cage, and in so doing had been caught by it and thrown down the shaft. Many serious accidents have occurred in a similar manner to this, which ought to make miners extremely cautious in such cases, and especially when no one is in attendance to give the signals, which is often the case when coals are not being drawn up.

A shocking and fatal accident also occurred at Old Durham Colliery, on Thursday last. A boy 12 years of age, named Taylor, was requested to oil the pulleys, or wheels, on which the wagon rope runs; and after he had done this he very stupidly seated himself upon the large horizontal wheel which leads the rope back again to the engine at the pit. In a moment the engine was put on, and he having his legs through the spokes of the wheel, they were both broken, and being carried round the wood frame, he was completely crushed to pieces. Death was instantaneous. A coroner's inquest was held on Monday, when the jury returned a verdict of "Accidental Death." It is not stated whether this wheel was raised off, or as to prevent access to them.

An interesting example of the good feeling which often exists between agents and workmen of the colliery having presented to Mr. George Brown, viewer at the colliery, who is about leaving for South Wales, a handsome watch and chain, as a mark of their esteem. A local and private bank has been established at Alnwick, which it appears has been long desired in that town, and will be a great accommodation to the inhabitants and others. But a correspondent of one of the Newcastle papers writing on the subject makes, I think, some very extraordinary and unfounded remarks. He states, after giving the names of the partners to this bank, as follows:—"These names will be a sufficient guarantee to the public that the monies entrusted to their care will not be squandered, or sunk in mines, collieries, shipbuilding, and other equally rotten speculations, but by husbandry, and confined solely to legitimate banking."

Now, we certainly were not aware, before seeing this sage production, that mines, collieries, and ships, were rotten speculations in the North. On the contrary, we fully believed that those speculations, when judiciously entered into, and carried out by real capitalists, were among the soundest, safest, and, withal, the most remunerative of enterprises. Nor do we yet see any reason to change our opinion. Coal, we need scarcely remark, is our grand staple, and ships, mines, and collieries, the principal source of our prosperity. If those were to turn out rotten speculations, Newcastle would soon cease to be the metropolis of the North. But to refute the opinions of this correspondent, we need only to mention the name of one of the partners in this new banking firm—that of Mr. H. Taylor. This gentleman's name is a host of itself. It is well known that he is a shipowner, is very extensively engaged in mines and collieries, and is at the present time engaged with an extraordinary winning for coal at Ryhope, which has every appearance of becoming speedily successful, and will, we doubt not, prove the very reverse of a rotten speculation.

We have had, it is true, too many rotten banks in Newcastle, and the monies entrusted to them have, to use the mildest term, been recklessly squandered; but we must not, on account of this, charge such losses to the account of legitimate mining, ships, &c., as such a charge would lead to the most erroneous conclusions.

The feeling with respect to the *lost* railway (that is, the loss of the bill for the Border Counties and North British Railways) has not subsided, but, on the contrary, as the subject is discussed becomes every day the more intense. The inhabitants of the towns of the South of Scotland—Hawick, Selkirk, Peebles, and Galashiels, and the villages of the counties of Selkirk and Roxburgh, who are the parties principally aggrieved by the recent decision of the Committee, are not disposed to submit quietly to the blow which has been struck at their commercial prosperity, by preventing them getting a communication with the north-east ports of England. In those towns and seaports, too, a strong feeling exists on the subject. However, it is evident that, if any further movement is made on the subject at present, it ought to originate in Scotland, but it will not want support here.

Already a plan is on foot to organise a strong deputation of the Members of Parliament and landowners of Southern Scotland to wait upon the Ministry and demand a Royal Commission to enquire into the manner in which the isthmus of the North is to be traversed. As we stated before, it appears quite absurd for the two schemes to be placed in opposition to each other, as the Caledonian Extension still leaves the third avenue from Scotland to the south by the valley of the Liddel and North Tyne unoccupied. This third or middle passage from Scotland to England will, no doubt, be had sooner or later.

It is understood that the public meetings which took place in Scotland will be followed by more energetic measures, and other public bodies, chambers of commerce, &c., as such sides of the Border will be put in motion.

We think no apology is needed for noticing here the death of Mr. Thos. Wilson, which occurred lately at Gateshead Fell, at the advanced age of 84 years. He affords an excellent example of what can be done by steady perseverance under the most unfavourable circumstances. He was born at the above place, and, at the early age of eight years, was employed in the coal mines there as a door-keeper. It will be readily acknowledged that at that time the facilities for acquiring knowledge were much less than are at present enjoyed by those employed in our coal mines. Boys at that time were employed fully 16 hours per day; yet, although this exemplary man was employed in that way for several years—indeed, he continued to work in the mine until he was 19 years of age, he, by attending a night school, contrived to acquire sufficient learning to enable him to teach a small village school, which he commenced at that time. Afterwards, he entered a mercantile office in Newcastle as a clerk; and, after many years of patient toil and many struggles, he ultimately became a partner in the extensive iron firm of Losh, Wilson, and Bell, at Walker Iron-works. He was the firm friend of literature and education, was instrumental in the establishment of public rooms, library, and also a school for the education of children at his native place. He was also a poet; perhaps the only one which has been produced from the class of coal miners in the North. His principal poem is the "Pitman's Pay," which contains graphic pictures of the manners and customs of pitmen in the last generation.

The North Seaton Colliery Company have invited tenders for sinking two pits, 15 ft. diameter, at North Seaton, near Blyth; two 120-horse power engines, high and low pressure; a 30 to 40-horse high-pressure engine; two engine-houses, suitable for above engines; also 30 workmen's cottages.

NEW BLAST FURNACES ON THE TYNE.—Passengers to and from Tynemouth by the Tynemouth branch of the North-Eastern Railway, or by the river steamers, will have observed that four new blast furnaces, for the production of pig-iron, have been erected at Jarrow. These furnaces have been erected by the Messrs. Palmer, the eminent iron ship-builders, Jarrow, and they are the largest in England. The works are most extensive and elaborate, and cover a large area of ground, which had to be prepared and adapted for their erection. The whole of the works, machinery, engines, &c., are laid out in the most complete manner, and so admirably adapted are they to serve the purpose of their erection, that they have excited the most intense interest in the minds of the iron producers of Great Britain. Many of the largest ironmasters in the kingdom have paid them a personal visit, and inspected them with the utmost minuteness; and the plan upon which they are constructed is acknowledged to be the nearest towards perfection yet discovered, either as regards the making of iron or the saving of labour. The blast, instead of being produced with the ordinary single beam engine, is the result of the operation of five single engines, each of 60-horse power, and driven at a great speed—a speed of about 70 revolutions per minute. Each furnace is 60 ft. in height from the ground to the gangway, and 12 ft. from the gangway to the summit, or a total height of 72 ft. from the ground, and they are 17 ft. across the boshes. Two of them have been in operation for the past three weeks, and the other two are rapidly approaching completion, and will be lighted in about three weeks. When the whole are in full operation, it is expected that they will produce from 800 to 1000 tons of pig-iron per week. To produce this quantity of iron they will require an annual supply of 350,000 tons of ironstone, coke, and limestone, and they will furnish employment to 200 or 300 men. The iron and limestone will be brought from the Cleveland and Whitley districts by the iron screw-boats which carry coals from the Tyne to the metropolis. The steamers having discharged their cargo of coals in the Thame, call, on their return northwards, at Port

Mulgrave, a harbour constructed by Mr. C. Palmer, at a few miles to the north of Whitley, for the purpose of loading these steamers, where they receive a cargo of ironstone and limestone. They are unloaded at the Tyne at a wharf in front of the new furnaces, by a combination of hydraulic and steam cranes. The raw material is obtained with great facility, and at a cost much below that consumed by many other furnaces. Such is the advantage of this arrangement, that the *Northumberland* screw steamer, one of the vessels engaged in the London coal trade, in the last voyage she made, delivered upwards of 600 tons of coal in London, called at Port Mulgrave on her passage down to the North, where she took in 600 tons of ironstone, and discharged it at Messrs. Palmer's wharf before the expiration of a week. The expense of the furnaces have been built by Messrs. J. B. Palmer, the eminent builders of marine engines, and are driven by ten boilers, working at a high pressure. *Newcastle Chronicle*, May 21.

THE NEW ELLIPTICAL BLAST-FURNACE.

In fulfilment of our promise, we purpose giving a detailed description of the American Double Blast-Furnace, recently patented in this country by Mr. Charles Coffey Alger, of Newburgh, Orange co., New York. Blast-furnaces for smelting iron ores have hitherto been constructed of a square, polygonal, or circular form in their horizontal sections through either the hearth or the boshes; and, as it is necessary to the proper working of a furnace that the blast of air should penetrate the whole charge equally, experience has demonstrated that with heavy coal, such as anthracite, a diameter or width of about 5 feet in the hearth is the maximum limit of capacity for the proper working of such furnaces in order to make good iron. Even with that capacity a blast of from 4 to 5 lbs. pressure on the square inch (depending on the quality of the coal) is necessary, the great weight of coal admitting of such pressure; but, with lighter fuel, such as charcoal, bituminous coal, and coke, which is easily lifted, and the fine particles forced up by the blast and lodged in the boshes, and which, therefore, does not admit of so heavy a blast, the furnace cannot advantageously be made so large as 5 feet in width or diameter of hearth; and, with the proportions indicated, the use of a blast of heavy pressure is attended with serious inconvenience on account of the expansion which the air undergoes in the cavities or opening of the charge, as such occasions inequality in the distribution of the body of air. The main objection, however, arises not only from the great cost of machinery and power to produce and maintain a uniform blast of heavy pressure, but from an increased consumption of fuel, all of which add greatly to the cost of erecting and running furnaces under such conditions.

Ironmasters generally believe that the relative proportions of the hearth to the boshes should be about as one to three, and that the diameter of the hearth should not exceed 5 feet, to work with economy and produce the best quality of iron. The product cannot be increased with economy by increasing the diameter or width of the hearth much beyond 5 feet, because that necessitates at times a still greater increase of pressure beyond 5 lbs., and such increase of pressure would not only be attended with a still greater proportional consumption of fuel, but besides it is liable to injure the strength and quality of the iron. Again, if the hearth is increased in diameter much beyond 5 feet, whenever the furnace loses its required heat, which often occurs, a hard mass is liable to form on or about the middle or back wall of the hearth, below the tuyeres, to the great detriment of the smelting process. These masses, when once formed, remain for a length of time after the furnace is brought back to the temperature required for making good iron. For these reasons it has been universally recognised that there is a practical limit to the capacity of such furnaces, and although it has long been known that it would be a source of great economy if the capacity of furnaces could be materially increased in some way suitable to production of good iron with the blast not exceeding the pressure usually employed; yet, prior to this invention, no plan has been proposed which would attain the desideratum. The object which Mr. Alger had in view was the production of a furnace which should have the required increase of capacity, and which, at the same time, should preserve what is recognised as the proper relations of the blast to the charge. To accomplish this, he makes the furnace of an elliptical or oblong form in the planes of its horizontal sections, from and including the hearth,

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THE MINING JOURNAL.

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ally; beside which, he had obtained other important results, which he expected shortly to bring before the public. The chief expense was incurred in melting the converted steel, the trade price for which was 10*l.* per ton; improvements should, he thought, chiefly be directed to this point.

Mr. Howell produced a specimen of his homogeneous metal, and explained its superiority, and in reply to an enquiry, added that the cost was 50*s.* per ton, but from so much less weight being necessary, the expense was not much greater than that of ordinary iron. Mr. Anderson spoke in favour of Mr. Howell's metal. Mr. Pearsall thought Mr. Anderson had remarked upon the utilisation of the heat from the blast-furnace in a different tone; yet science had fully proved, and practice had shown, that 80 per cent. of the heat was not employed in the conversion of the iron.

After some remarks from the Chairman, Mr. Anderson gave the particulars of the cost of manufacturing his metal, showing that it would not exceed, when the metal was drawn from the blast-furnace, 5*s.* per ton. The fluid metal was drawn from the blast-furnace into the refinery, and thence into a receptacle heated not higher than an ordinary puddling-furnace. Any reagent which on its decomposition gave out oxygen was added, which combining with the carbon eliminated from the iron, formed carbonic oxide. This immediately reduced all the carbonatoids and unresoled matter, entirely liberating all deleterious matter contained in the iron, thereby producing a highly decarbonised, clear, crystallised metal. When this metal, produced at so low a cost, was used in the puddling-furnace, malleable iron was turned out of a very superior quality, and with an extremely small waste, thereby effecting a considerable economy to the ironmaker, and raising the standard quality of his finished materials.

THE MINING ASSOCIATION OF GREAT BRITAIN.

The annual meeting of the Mining Association of Great Britain was held on Thursday, at the Craven Hotel, London—Nicholas Wood, Esq., president, in the chair—for the purpose of considering and discussing several matters of importance relative to the present and prospective interests of the coal trade. The Chairman called attention to the coal dues levied by the Corporation of London, and informed the meeting that the mortgage for which the eightpenny duty was imposed would be paid off in the course of next year. The Corporation had a bill before Parliament now, and at a recent meeting of the manufacturers of the City of London it was suggested that two clauses should be inserted in it, to the effect that the eightpenny duty should cease so soon as the mortgage for 750,000*l.* was paid off. There was a petition to the same effect from South Lancashire; and if the trade generally petitioned, they would soon get rid of the eightpenny duty, which would be a great boon. A lengthened discussion took place on the question of "rating mines other than coal mines," and it was finally resolved that a committee should be appointed to consider and report upon the subject to future meeting. With respect to the rating of coal mines, a very general feeling of unanimity prevailed as to the present capricious and unsatisfactory mode of levying the rates; in no two districts did the system of rating correspond, and so unfairly did it sometimes operate, that the rating was proportionately higher where the profits were smaller.

Mr. Charlesworth, M.P., read a letter from a coalowner in Yorkshire, stating his views on rating, in which the meeting pretty generally concurred. It was at length resolved that a committee should be appointed, consisting of representatives from each of the sixteen coal districts, to consider and determine upon some just and uniform system of rating coal mines. The Chairman having announced that the next subject for discussion was the General Workman's Relief Fund, very great sympathy was expressed towards the workmen and their wives and children; and the Chairman and several members of the association warmly advocated the propriety, as well as expediency, of establishing a fund in connection with each colliery, towards which the owner and the workmen should contribute; the former to pay one-fourth of whatever the men subscribed. A resolution was passed, recommending that the relief funds at present established in several districts should become universal.

The Chairman informed the meeting of what had taken place with reference to the establishment of a mining college and district schools. He was in communication with the Warden of the University of Durham, and it was only right to state that the authorities of that institution were favourable to the project. They were willing to lend the association every assistance in their power, while they disclaimed all intention of interfering with the management of the proposed college. The aim of the association was a practical one—to instruct and qualify by actual observation those who were hereafter to be employed in coal mining operations. This object could not be so well accomplished anywhere as in a college situated in a coal district, and it was for this reason, and not with a view of clashing with any existing institution, that they sought to found a central mining college and district schools. It was finally agreed that the Chairman should pursue his negotiations with the heads of Durham University, and adopt such further proceedings as he might deem advisable. Votes of thanks having been severally passed to the Chairman, treasurer, and secretary, the meeting separated.

IMPORTANT COLLIERY CASE.—At the Court House, Wakefield, on Monday, before Messrs. E. Tew (Chairman), J. Barff, and W. H. Leathem, John Goldthorpe was charged that, being an engineer at the Haigh Moor Pit, belonging to Messrs. Briggs and Son, at Whitwood, did, on March 2 last, wilfully and negligently cause the colliery engine to raise the cage from the bottom before receiving any signal so to do, and while Thomas Crowther (a miner) was in the cage, whereby the said Thomas Crowther was struck out of the cage and killed. The charge further recited that Goldthorpe, by the above proceedings, had violated the 34th special rule, which requires that the engineer shall "gently lift the cage from the pit bottom, and carefully drive the engine at a slow speed, and remain at the handles with his foot on the break when persons are in the shaft, and also pay particular attention to the signals." A second summons charged the defendant with not using the proper caution requisite. Mr. Skipworth, instructed by Mr. Chas. Morton, Government Inspector (who was present during the hearing), appeared for the prosecution; and Mr. Ferns, of Leeds, for the defendant.—Mr. Skipworth, in opening the case, said the present information was laid by the Government Inspector, acting under the direction of the Secretary of State. By the 18th and 19th Vic., cap. 108, colliery owners were required to establish certain "special rules" for the prevention of dangerous accidents; and Messrs. Briggs and Son had established these rules. On March 2 last, while the defendant was acting as an engineer at the colliery, the cage was let down into the pit, containing Thomas Crowther and three other men. At this time some alterations were being made in the pit, for the purpose of deepening it, and attached to the bottom of the cage was a tub, which descended into a sump hole for the purpose of drawing out the water. The cage had descended to a platform immediately above the sump hole, and three of the men got out. Before, however, the defendant, Crowther, could follow their example, and before any signal was given for that purpose, the defendant raised the cage, and Crowther's head, coming in contact with a beam, was knocked out and killed. An inquest was held on the body of the deceased before Mr. Jewison, coroner, when the jury returned a verdict of "Accidentally killed." The coroner, however, took exception to this verdict, and said the jury ought to have returned one of "Manslaughter" against the engineer, Goldthorpe.—Mr. Skipworth now called a number of witnesses, who proved that no signal had been given before the cage was lifted up; but one of them admitted that Crowther had had time to get out of the cage if he had endeavoured to do so at once. It was also stated that Goldthorpe himself had acknowledged that no signal had been given.—Mr. Ferns, for the defence, contended and called witnesses to support him, that at the time the accident happened the pit was in a disorganized state, that it was undergoing alterations, and that, in consequence, the signals were out of order. He asserted that days before the accident took place Goldthorpe had told Beardsall, the manager, that the signals were out of order, and were not working properly; and that, in fact, the fault lay with the manager, whose duty it was to see that the signals were right; but that, in order to screen himself and his employers, the blame had been put upon Goldthorpe. With respect to the alleged confession of Goldthorpe, it had been wrong out of him (if had really been got from him at all) when there were no witnesses but the bottom steward and the manager. He submitted that under the circumstances there was no case against the defendant, and that the summons must be dismissed. After hearing the evidence, the Bench said they were of opinion that the rules had been violated by the defendant, and that they should, therefore, sentence him to a month's imprisonment and hard labour in the House of Correction. The defendant was then removed.

MINING EDUCATION.—The vast importance of thoroughly scientific knowledge of mining, combined with practice, cannot, I think, be over-estimated. The reasons for promoting the interests of mining schools, and affording every facility to miners for obtaining a knowledge of those branches of science so intimately connected with their daily doings, and bearing so directly on the requirements of their vocation, have been so frequently assigned, and are so self-evident, that they need not be repeated. There are now several pupils in the mining schools of the country preparing themselves for the places of mine agents, viewers, bailiffs, and engineers, and ere long will undoubtedly be filling these respective stations, with credit to themselves and benefit to their employers, and to the workmen over whom they may be placed. In them we hope the good results of a mining education will show themselves, and thereby increase the desire in the mind of the mining public for the establishment of mining schools, or other institutions, where mining sciences may be studied by the miners. These pupils are not generally from the ranks of workmen, nor can it be expected, owing to the smallness of the means at their disposal, but for the most part are the sons of agents, overseers, and captains of mines. The miners must have the means of instruction taken to the localities in which they reside. Mining classes formed in schools already established, conducted by itinerant lecturers, seem to be the most facile course to be adopted for educating the working miners. By such an arrangement the masters of existing schools, would, in course of time, obtain a sufficient knowledge of mining subjects as should enable them to take charge of the mining classes during the temporary absence of the lecturer, and ultimately the branches of mining science would have their places in the routine of ordinary school teaching in mining districts. The necessity there is for instructing the miners in subjects on a knowledge of which their lives in a great measure depend, and by which the profits of mines may be so materially increased, is admitted on all hands, and yet how strangely apathetic! and in many cases how averse you find parties of ability and influence to make anything like an effort in the cause of such. We earnestly hope that owners and managers of collieries will do their utmost to assist in the coming prize examination, to be held in connection with the Bristol Mining School, by way of encouraging and inducing their under-agents to compete for prizes and certificates. We were glad to meet so many last Midsummer, and have no hesitation in expressing a belief that the very laudable purpose of these examinations has not been lost upon them—a stimulus to effort in obtaining knowledge on mining subjects.—MARK FINLAY, St. James-square, Bristol.

RAILWAY TIME TABLES.—The May edition of *Bradshaw's Railway Guide* has been considerably altered and improved. The map has been extended, the classification of railways is drawn up on a new plan, and a key which greatly facilitates reference has been added.

WEEKLY LIST OF NEW PATENTS.

GRANTS OF PROVISIONAL PROTECTION FOR SIX MONTHS.—J. CHATTERTON, Islington: Combining and coating insulated metal conductors for electric telegraphs.—L. TAPIE, Bordeaux: Building.—S. ETCHELLS, A. CONSTERDINE, Nottingham, S. CATELL, Radford: A reversing water tube iron, to work with single blast or double blast as occasion may require, and an arrangement of water tube irons and parts connected therewith.—J. SWAIN, Hyde, M. SWAIN, Dukinfield: Metallic pistons.—W. ROSS, Glasgow: Taps or valves.—J. H. JOHNSON, Lincoln's Inn-fields: Signal and indicating apparatus for railways.—J. RICHARDS, Moorgate-street: Rotary pumps.—W. HEAP, Ashton-under-Lyne: Pipe joints or couplings.—W. E. NEWTON, Chancery-lane: Salt-petre.—W. WALLIS, W. LANGFORD, J. SLACK, Nottingham: Pressure gauges.—C. JOHN CARR, Wentworth: Forge and other hammers.—R. BOST, Birmingham: Illumination.

METALLIC COMPOUND.—Mr. W. Sharman, Sheffield, provisionally specified an invention, which consists in combining or mixing zinc or foreign zinc with lead and tin in certain proportions not heretofore employed in the manufacture of metallic compounds, or alloys of metals intended for practical use in manufacture. Small quantities of zinc, not exceeding 5 per cent., or thereabout, have heretofore occasionally been added to pewters and white metals in the manufacture thereof, but such addition has been found to be practically valueless, owing to the small percentage of zinc used. This objection he proposes to surmount by employing from 10 to 18 per cent. of zinc, which is enabled to accomplish by adopting a peculiar mode of mixing the aforesaid zinc, lead, and tin together, which ensures the thorough admixture of from 10 to 18 per cent. of the zinc, with from 10 to 18 per cent. of lead, and from 64 to 80 per cent. of tin. Instead of placing the aforesaid three metals promiscuously in a crucible and fusing them all together, he first melts the zinc at as low a temperature as possible; then adds by small quantities at a time the tin, taking care at each addition to ensure thorough and perfect admixture of the metals, by stirring (by preference) with a piece of green wood, having found in practice that the gases given off and the carbon formed thereby prove beneficial in reducing any oxide which may exist in the metals. The addition of the tin being completed, he next adds the lead, stirring it as before. The metal may now be cast into any desired form. For soldering the above metallic compound he uses an alloy of tin, lead, and bismuth, in the proportion of about one part bismuth, two parts tin, and two parts lead, using less bismuth for fine work than for other work.

MANUFACTURE OF WIRE.—Mr. James Cocker, Liverpool, provisionally specified an improved mode of reducing wire iron to a sufficiently small size to admit of the metal being at once drawn down to the intended gauge of the wire instead of causing the wire to be operated upon several times, as is now necessary, before it can be brought to the required size. He takes several lengths of wire iron, or iron or steel wire, or other metal rods or wire, and weld or otherwise secure them end for end, in one long length, which is then to be wound on to a metal bobbin or reel, and heated until the wire iron or other metal rod or wire is brought to a proper state for rolling down; and while in a heated state the iron, or other rod or wire, or wire iron is passed between rolls and rolled down to the desired size, after which it will only be required to draw the wire once through the dies, for the purpose of finishing the same and smoothing the surface. By this means several of the repeated drawing operations which have been heretofore required to reduce the wire to the desired gauge are dispensed with, thereby economising much time and labour. For heating the wire iron, or iron or other metal rod or wire, he proposes to use an apparatus of a novel kind, and which forms the subject of a separate invention, but any other convenient plan of heating the wire may be employed if preferred. He also claims a novel method of hardening wire, which consists in winding it on metal bobbins or reels, and heating it thereon in any convenient manner, and then, while in a heated state, drawing the wire off the bobbins, and passing it direct into a bath of oil or other suitable liquid, after which the wire may be tempered in the usual way.

SOLID RAILWAY WHEELS.—Notice to proceed with an important invention for improvements in railway wheels has recently been given by Mr. C. F. Vasserot, patent agent, of Essex-street, for Messrs. Dory and Badin. Lengths of iron are first set, in such a form that when bent into an isosceles triangle, or nearly so, each forms two halves of spokes, and the portion of the periphery of the wheel between them; the requisite number of these pieces to form the entire wheel is put together; a rivet is passed through the two parts of each spoke, and the whole wheel then welded into one solid piece. A peculiar kind of tong, which grasps all the pieces of the wheel while the welding is being effected, also forms part of the patent. We shall allude more fully to this invention in a future Journal.

RAILWAY INCLINE PLANES.—An improved mode of regulating the ascent and descent of the railway locomotives on incline planes, was provisionally specified by Mr. L. de Christoforis, of Milan. The locomotive is to have six wheels, and the two central ones are to be the propelling wheels; on the external circumferences of both the propelling wheels a number of small wheels will be adapted. Laterally on the sides of the rails there will be ranged a series of coggs raised from the ground, and secured upon a guide parallel and firmly connected with the rails. To check the descent there will be placed at the ends of the propelling cylinders a pipe in communication with the necessary suction and valve.

METALLIC PISTONS.—In place of allowing the whole surface of the metallic packing to come in contact with the interior of the cylinder, Mr. Joseph Frith, Crossland Moore, near Huddersfield, proposes to cut a groove round the circumference, and insert a spring ring of metal.

IMPROVED RAILWAY CARRIAGES.—Messrs. Allen and Young provisionally specified an invention, which consists in forming and fitting the face-plates of buffers for railway carriages, in such a manner that when the plates on the ends of the buffers of adjacent carriages are brought together, the lateral motion of one past the other may be prevented, while, at the same time, no obstruction shall be offered to the motion of a train composed of carriages thus fitted round curves. The plate on one buffer may be formed with a spherical or other projection, and the plate on the buffer which comes opposite to it with a spherical or other recess, into which the aforesaid projection will fit when the two buffers are brought together.

RAILWAY WHEEL TYRES.—Messrs. Jackson, Son, and Co., St. Seurin-sur-Uze, steel manufacturers, have patented an invention which consists in manufacturing tyres for railway and other wheels, by casting in a suitable mould a ring of cast-steel, and expanding the ring so cast as to produce a tyre by rolling it between rolls, such as are at present employed in the manufacture of railway tyres. The steel ring is formed in a form corresponding to that of the tyre to be produced, but considerably smaller in diameter and thickness. In place of casting the steel into the form of a ring, a disc of steel may be cast, and a ring produced by cutting or punching out the centre of the disc.

METALLIC PISTONS.—Mr. T. Forsyth, Manchester, has patented an invention, which consists in casting, forging, or otherwise attaching to the body or block of the piston a projection which answers the purpose of the separate stop-piece, hitherto employed to close the joint of the packing or wearing-ring, which in the improved piston is made with an internal groove, fitting on the circumference of the body or block, and it is opened to pass on, on each side of the fixed projection, and in resuming its form encloses the said projecting piece in recesses formed in the ring for that purpose, as well as the body or block, the stop-piece thus forming the obstacle to prevent the ring turning upon the body or block.

CHARCOAL.—Some improvements in cleansing animal charcoal, and removing iron and other impurities therefrom, has been patented by Messrs. Finzel and Bryant, of Bristol. The invention consists in the employment of centrifugal force to remove iron and other liquid, heated air, steam, or some such purifying and cleansing agent. The charcoal may, or may not, require re-burning to completely revivify it. Another part of the invention consists in exposing animal charcoal to magnets, in order to extract any particles of iron which may be found among the grains.

SULPHURIC ACID.—Mr. W. Gossage, Widnes, proposes some improvements in manufacturing sulphuric acid from liquid sulphurous acid. He prepares liquid sulphurous acid by causing water or other fluid to absorb sulphurous acid gas. He converts such liquid sulphurous acid into sulphuric acid by causing it to absorb oxygen from atmospheric air, with or without the assistance of nitrous gas, or other oxidising agent; or he causes such liquid sulphurous acid to become heated, so as to liberate pure sulphuric acid gas therefrom, which gas he converts into sulphuric acid by well-known means commonly employed for the conversion of impure sulphurous acid gas into sulphuric acid, or by other means.

NOVEL MACHINE FOR PLOUGHING.—A windlass for ploughing or culturing land by means of a wire rope, the windlass being driven by an ordinary portable engine as used for threshing, is being exhibited in Chelmsford Market. The mode of working is on quite a new principle, patented by Mr. A. Eddington, of Springfield, and the windlass was manufactured by Messrs. Everett and Taylor, of Chelmsford. In four hours from leaving the workshop, with one horse to draw on the rope, it moved itself three and a half miles along the high road, and next morning, with the same assistance, was brought back to Chelmsford in three hours, the weight of engine and windlass being upwards of eight tons. The windlass consists of a strong framework, containing two drums, and is supported on large wheels; when used for ploughing, or when moved from one farm or field to another, the portable engine is drawn up an incline on to the top of the framework, and drives the windlass direct from the fly-wheel by means of a strap.

Mr. Stenhouse has discovered an artificial kind of coal, as an economical substitute for lamp or ivory-black, which is generally prepared by burning bones in a closed vessel, and is much employed in rendering liquids colourless by filtration. Mr. Stenhouse claims in digesting 92½ parts of finely pulverised charcoal in 54 parts of alum dissolved in water; after which the mass is evaporated to dryness, introduced into a Russian crucible, covered with a lid, and then exposed to a red heat until the water and acid are completely driven off. The black substance which remains is a compound of charcoal and 7½ per cent. of alumina, possessing, in an eminent degree, the property of depriving liquids of their colour.

FANS FOR VENTILATING MINES.—In a former number we published, from the *Mining Journal*, a brief description of the success resulting from the employment of a steam-fan in ventilating the coal mine at Abercarn Colliery, England. In answer to this, we have received a communication from Stephen Cox, of Bridgeton, New Jersey, claiming priority of invention, and he has furnished us with some testimony to prove his title. He made a rotary fan, and put it to work in a mine at Reading, Pa., in Sept. 1854, and another for the same company in November following. Since then it has been successfully at work, embracing a period of three years and seven months. The mine in which it is placed is 300 ft. deep, and the workings are a considerable distance from the shaft. The fan is 3 ft. in diameter, has four blades, and runs at the rate of 1200 revolutions per minute. A branch pipe from each inlet of the fan case connects with a main pipe, which is carried down the shaft, and into the rooms where the miners are working. Through this pipe the foul air is sucked up, thus causing a current of fresh air to rush down the shaft and through the mine to supply the place of that which is exhausted. This fan is driven by the usual mine engine, and is not set in a separate ventilating shaft, like the one in England. As it appears to be competent to fulfil the offices for which it was constructed and arranged, it is an important fact for miners, inasmuch as it presents a very simple method of mine ventilation. In regard to its utility, Thos. Roberts, mine agent for Reeves, Buck, and Co., of Phoenixville, Pa., states that the mine to which it has been applied was previously almost impossible to work, on account of foul air, but this was removed within an hour after the fan was set in motion, and the mine thoroughly ventilated. This is pretty high testimony to its efficiency. "Honour to whom honour is due."—*Scientific American*.

EXPLOSION OF A POWDER MILL IN ARGYLLSHIRE.—LOSS OF SIX LIVES.—A serious accident, attended with loss of life, took place on Tuesday afternoon, at the Kames Gunpowder Company's Mills, Kyles of Bute. About 1 o'clock one of the stone and dusting houses exploded, by which five men and a boy lost their lives. The cause of the explosion is unknown, and cannot be accounted for; one of the survivors, whose duty it was to see everything in order, having visited the house only a minute or two before it took place, when all was found correct. Although the loss of life is serious, we understand that the property destroyed is trifling.—*North British Mail*.

THE "NAUTILUS" DIVING BELL—ITS OPERATIONS IN FRANCE.

The operation of the Nautilus diving apparatus has been recently exhibited in the Bassin de l'Eure, Havre, by Mr. Samuel Hallett, the President of the Nautilus Submarine Company. A series of experiments were made in the presence of an imperial commission, a large body of eminent scientific men, and the public generally, the spectators numbering thousands. How well the value of this admirable invention is appreciated abroad, the following extracts will show:—The *Courier du Havre* says:—"At a first glance, the Nautilus presents an evident superiority over the old diving-bell, hitherto employed exclusively on the works in our port. The two apparatus were yesterday placed within a few feet of each other, and the most inexperienced spectator could not but be struck by the difference between them. On the one hand, a ponderous machine, requiring for its ascent and descent a very complicated system of mechanism; and, above all, accessories, heavy, embarrassing, and difficult to move; on the other, the Nautilus apparatus, light, elegant, and independent of assistance, and communicating with the surface only by means of a thin, flexible hose. The Nautilus once in the water, descends and rises in any depth required; moves in every direction by no other regulation than the will of the operators within, and wholly independent of any external direction. All these various movements, moreover, are produced with the greatest ease, and instantaneously, so much so, that when the machine is moving in any way, scarcely an instant's time is necessary for changing its course or modifying its rapidity. The Nautilus, from a scientific point of view, is a magnificent and useful invention, and yesterday must have been a day to be marked with a white stone for Mr. Hallett, the President of the Nautilus Company, who displayed the greatest courtesy and promptitude in explaining to the numerous guests entertained by him with a prince-like hospitality, the ingenious and simple mechanism of the new apparatus."

In *Le Monde Illustré*, after a woodcut and description of the apparatus, we read—"Such are the excellent qualities of the Nautilus, which, for submarine works, is to the diving-bell what the electric light is to the reflection of an oil-lamp. Ample proofs of this may now be obtained in the roads; for at the present moment, when a project for improvement in, and new approaches to, the Port of Havre, embracing the construction of enormous breakwaters extending far into the sea, is being entertained, the Nautilus will be rendered indispensable."

The machine has since been removed to Paris, and experiments, extending over several days, and in the presence of over 10,000 spectators, including the most eminent, scientific, and literary personages of France, have been made in the Seine."

Le Moniteur Universel, of May 18, says:—"A new diving machine, called the Nautilus, was experimented with to-day in the basin of the Port d'Orsay, below the Pont Royal"—and gives a sketch of its mechanism and operation, stating in conclusion—"This apparatus appears to us adapted for useful application in all submarine works."

A brief description of this valuable invention appears in our impression of June 10 last year, on the occasion of experiments with the Nautilus in the Victoria Docks, when Mr. Robert Stephenson, M.P., Sir Morton Peto, and many others, spoke so highly of its practical utility and complete applicability for all works under water.

A NEW MODE OF PREPARING RED PRUSSIATE OF POTASH WITH THE PEROXIDE OF BISMUTH.—A new mode of preparing red prussiate of potash has been invented by the celebrated chemist, Schoenbein. The brown peroxide of bismuth, prepared according to Kaiser's method—that is to say, with a solution of hypochloric acid and caustic soda—retains a portion of its oxygen so feebly that it effects the change into red prussiate almost as easily as ozonised oxygen. If a cold and clear solution of yellow prussiate of potash be mixed with this protoclide, it will in the course of time acquire a strong yellow tint, and deposit considerable in connection with the pure salts of protoclide of iron. The decomposition of this salt is more rapid at the temperature of boiling water. The peroxide is brought back to the state of oxide, the cyanide of potassium is transformed into potash, and the yellow salt is changed into red. But, as is well known, the free alkali reacts upon and decomposes the cyanide in solution, whence results the reactivation of yellow cyanide and the formation of ammonia; this injurious reaction may be easily prevented by passing a current of carbonic acid gas through the boiling solution of yellow prussiate that is treated with peroxide of bismuth. If a sufficient quantity of peroxide be mixed with the boiling solution of the cyanide, and the two be kept in intimate contact by agitation, the change of the yellow into a red salt is rapidly effected. The resulting products are—red cyanide, carbonate of potash, and oxide of bismuth. As the first of these salts crystallises with facility, it may be separated without much difficulty from the carbonate of potash, and immediately after the first crystallisation an excellent product is obtained; by the second, this product is magnificent, and superior to any that can be obtained by any other mode of preparing it. By conducting the operations with great care, it is possible to obtain 74 to 75 parts of red cyanide from 100 parts of yellow salt, or nearly as much as indicated by theoretical calculations. Whether the commercial manufacture of the red salt by this method may be undertaken with advantage is a question for practical men to decide, but it is certain that it gives cyanide in larger quantities, and of a superior quality

ORIENTAL INLAND STEAM COMPANY (LIMITED),
FOR NAVIGATING THE RIVERS OF INDIA.
Under subsidy from the Honourable East India Company, being the only company for navigating any part of any of the Indian rivers which possesses this advantage. The directors, though frequently pressed to publish the reports of the steam navigation companies at present working upon the Indian rivers, as affording conclusive evidence of the profitable character of such undertakings, have hitherto refrained from doing so; partly because they thought it right, at the outset of a new undertaking, to repress all brilliant anticipations, however justly warranted, and partly because they wished the shareholders to discover for themselves new causes of satisfaction as their familiarity with the enterprise increased, by finding in how many ways and to how material an extent the reality of the advantage exceeded the promises held out. The first vessels of the company, however, having now been successfully completed, the directors consider that such a state of progress has been reached that there may be no impropriety in giving publicity to the following letter and citations:—

From one of the shareholders of the Oriental Inland Steam Company (Limited) to Capt. W. H. Hall, R.N., C.B., F.R.S., &c. (late of the *Nemesis*), one of the directors.

MY DEAR SIR.—I send you the report of the directors of one of the Ganges Steam Companies, of which the ordinary half-yearly meeting has just been held in Calcutta. You will see that the dividend declared is at the rate of 44 per cent. per annum. At the same time, each possessor of five shares in the company is presented with a new paid-up share, free of expense, and even after this has been done some paid-up shares are left to be sold for behalf of the company. If the paid-up shares were converted into money at par, they would raise the dividend to above 65 per cent. I understand that the other steam companies in India are paying still larger dividends, and both companies have been paying large dividends for many years. The English public is so ignorant and so incredulous of these results—which, however, are just as well substantiated as the price of *Conqueror*—that I think it would be very useful if the board would publish some extracts from this report, as no one can read it without being inspired with the greatest confidence in the promise and the soundness of our undertaking. I am, my dear Sir, &c., &c.

EXTRACTS FROM REPORT OF MEETING.

At the half-yearly meeting of the India General Steam Navigation Company, held in Calcutta, in March, 1858, the report of the directors having been read and adopted, the following resolutions were unanimously carried:—

Moved by William Judge, Esq., and seconded by J. R. Worcester, Esq.:—"That a dividend of 220/- per share (being at the rate of 44 per cent. per annum) be declared for the past half-year."

Moved by I. W. H. Ibery, Esq., and seconded by C. B. Stewart, Esq.:—"That the value of the capital stock of the company be declared (as valued) at 13 lakhs of rupees, and that, to represent this sum, 227 new shares of 1000/- each be issued, in excess of the 1073 shares now existing, making in all 1300 shares of 1000/- each, to represent the block of the company."

Moved by C. S. Hogg, Esq., and seconded by W. Duncan, Esq.:—"That the new shares so issued be distributed free of cost to the present shareholders, in the proportion of one new share to every five old shares now held by them; and that the 12 shares that remain unappropriated after the said distribution shall be sold by public auction, and the proceeds applied towards the completion of the steamer *Rajmahal*, and the two flats now being lengthened."

It is explained in the report that the paid-up shares are rendered available for disposition free among the shareholders, from the gradual extension of the company's fleet having been defrauded of revenue, and not out of capital; so that, notwithstanding the large dividends, the stock had come to be much more valuable than the original capital presented.

The following extracts are taken from a leading article in the *Friend of India* newspaper, published in Calcutta, February, 1858:—

"There are facts widely known about our river communication which, reported of any continental river, would throw London into a fever of speculation. One of our steam companies, for instance, threatens to declare a dividend at the rate of 50 per cent. Large profits, moreover, in India are not temporary. There is not the smallest danger of overdoing the market. As for the eastern rivers, they are practically untried. We venture to say that any large shipowner who would send out ten of the proper steamers, would find their cost repaid in three years, wear and tear included. We are told that there is a dread of railway competition, but it can scarcely be entertained by those who know the country, and there are plenty of rivers with no railway by their side."

Prospects, copies of reports, and all further information, may be obtained at the company's offices, 9, Billiter-street, London. By order of the Board,

JOHN MATHEWSON, Sec.

ORIENTAL INLAND STEAM COMPANY (LIMITED),
FOR NAVIGATING THE RIVERS OF INDIA (under subsidy from the Hon. East India Company).

The Directors give notice that, their first vessels having now been successfully completed, they are about to ALLOT the REMAINING SHARES (£10 each), respecting which full particulars may be obtained at the company's offices.

All experience shows that the navigation of the rivers of India by steam is one of the soundest and most profitable enterprises of the day; the profits realised by existing companies varying from 30 to above 40 per cent., and gradually increasing.

This company has the further advantage of a yearly subsidy from the Hon. East India Company, being the only company thus distinguished, and of all such facilities in fuel and otherwise as the Government can afford.

The new allotment will take place on the 26th of May inst., after which no further applications can be received. By order, JOHN MATHEWSON, Sec.

9, Billiter-street, London, May 13, 1858.

INDIA.—PEACE AND WAR.— TWO CHROMO-LITHOGRAPHS, showing the MODE of NAVIGATING the INDIAN RIVERS in PEACE and in WAR by the STEAM TRAINS of the ORIENTAL INLAND STEAM COMPANY. Each train, consisting in all of six vessels, is about 100 ft. longer than the *Leviathan*, and, by means of such trains, troops and stores can be transported with expedition upon shallow rivers, and on a small draught of water. Price 10s. per pair. London: Day and Son, Lithographers to the Queen.

PRICE SUBJECTS FOR SESSION 1858-59.

THE ROYAL SCOTTISH SOCIETY OF ARTS proposes, to AWARD PRIZES of different values, of Thirty Sovereigns and under, in Gold or Silver Medals, Silver Plate, or Money, for APPROVED COMMUNICATIONS, privately submitted to the Society, relative to INVENTIONS, DISCOVERIES, and IMPROVEMENTS in the MECHANICAL and CHEMICAL ARTS in general, and in their relation to the FINE ARTS, and also to means by which the NATURAL PRODUCTIONs of the country may be made more available. The society suggest the following as a few of the many subjects that may be attended to, viz.:—

I. INVENTIONS, DISCOVERIES, or IMPROVEMENTS in the USEFUL ARTS.

II. EXPERIMENTS applicable to the USEFUL ARTS.

III. COMMUNICATIONS or PROCESSES in the USEFUL ARTS practised in this other countries, but not generally known.

IV. PRACTICAL DETAILS of PUBLIC or OTHER UNDERTAKINGS of NATIONAL IMPORTANCE, already executed, but not previously published; or valuable suggestions for originating such undertakings.

KEITH PRIZE (value Thirty Sovereigns).—For some important "Invention, Improvement, or Discovery in the Useful Arts," which shall be primarily submitted to the society during the session.

REED AND AULD PRIZES.—For the First, Second, and Third best Models of "Anything New in the Art of Clock and Watch Making, by Journeyman or Master Watch and Clock Makers; if these should be considered worthy of prizes, the year's interest of the Field and Auld Bequest, being about Seven Guineas, divided among them in such proportion as the Prize Committee shall fix, according to merit. To such as may deserve it, the society may add to the amount of the prize out of its general funds.

GENERAL OBSERVATIONS AND DIRECTIONS FOR PREPARING AND LODGING COMMUNICATIONS.

Communications lodged in competitions for prizes shall not have been patented, nor have been previously published, nor read before any other society. Patented articles may, however, be exhibited and described.

The descriptions of the various inventions, &c., must be full and distinct; be legibly written on foolscap paper, leaving margins at least 1½ in. broad, on both sides of each page, so as to allow of their being bound up in volumes; and, when necessary, be accompanied by specimens, drawings, or models. All drawings to be on imperial drawing paper, unless a larger sheet be requisite. The drawings to be in bold lines, not less than a quarter of an inch thick, or strongly coloured, so as to be easily seen at about the distance of 30 ft. when hung up in the hall, and the letters or figures of reference to be at least 1½ in. long. When necessary, smaller and more minutely detailed drawings should accompany the larger ones, for the use of the committees, having the same letters of reference.

The society shall be at liberty to publish in their Transactions copies or abstracts of all papers submitted to them. All models, drawings, &c., for which prizes shall be given, to be held to be the property of the society; the value of the model, &c., being separately allowed for.

Communications, models, &c., are to be addressed to the secretary, Chambers, 5 Hill-street, Edinburgh, postage or carriage paid; and they are expected to be lodged on or before Nov. 1, 1858, in order to ensure their being read and reported on during the session (the ordinary meeting of which commence in November, 1858, and end in April, 1859); but those which cannot be lodged earlier will be received to April 1, 1859; those lodged after that date may not be read or reported on till the following session.

For a detailed list of suggested prize subjects, application may be made to the secretary. By order of the Society, JOHN BEATSON BELL, Sec.

Edinburgh, May 13, 1858.

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Shares.	Mines.	Paid.	Last Price.	Present.	Dividends per Share.	Last Paid.	Shares.	Paid.	Last Price.	Present.	Shares.	Paid.	Last Price.	Present.	Paid.	Last Price.	Present.
5120 Alfred Consols (cop.), Phillack [S.E.]	£2 11 10	£2 11 12	11 1 12	£18 6 0	£20 3 0	— April 5, 1858.	4000 Brynglas Silver-Lead [L.]	1 19 0	—	—	100 Fentre Lygan (lead)	20 0	—	—	20 0	—	—
1224 Balleswidden (tin), St. Just	11 5 0	4	4 5	12 5 0	0 5 0	— Jan. 1, 1854.	2000 Bryn-y-Fedwen (lead)	1 19 0	—	—	1160 Perran St. George (cop., tin)	21 10 0	—	—	21 10 0	—	—
10900 Bampfylde (copper), Devon	0 12 6	1 1 6	1 1 6	312 10 0	0 0 7	— May 12, 1858.	6000 Buckland Consols (copper)	20 4 0	—	—	512 Polloren (tin), St. Agnes	6 0 0	—	—	12 0	—	—
4000 Bedford United (copper), Tavistock	2 6 8	6 5	6 5	63 7	9 19 0	0 2 6— March 4, 1858.	6380 Butler and Bassett Unit. (cop.)	2 5 0	—	—	2448 Ponterwyd (lead), Cardigan.	3 10 0	—	—	12 0	—	—
240 Boscean (tin), St. Just	20 10 0	65	65	21 0 0	3 0 0	— Sept. 4, 1857.	5000 Cae-Cynon, Cardiganshire	0 10 6	—	—	549 Pwll-y-Wheel (lead), Mold.	7 12 0	—	—	12 0	—	—
2000 Botallack (tin, copper), St. Just*	91 5 0	170	170 180	429 15 0	2 10 0	— Feb. 16, 1858.	2000 Calstock United (lead)	10 0 0	—	—	4096 Queen of Dart, Ashburton	0 10 0	—	—	12 0	—	—
1200 Brightside and Froggatt Grove, Derbyshire	3 0 0	8 6	8 6	3 0 0	3 0 0	— April 30, 1856.	1915 Calvdack, Wendron	11 0 10	—	—	600 Redhill Mining [L.]	10 0 0	—	—	12 0	—	—
100 Brynmor Hall (lead), Flintshire	25 0 0	50	50	13 0 0	5 0 0	— July 31, 1856.	2000 Camborne Consols (lead)	14 5 0	—	—	4096 Resynn (copper)	0 3 6	—	—	12 0	—	—
1000 Bryntyll, Llanidloes, Montgomeryshire	7 15 0	1 1 6	1 1 6	5 0 0	0 5 0	— July 1, 1856.	4500 Camborne Year & Wh. Francis	13 0 10	—	—	10000 Rhosydd Silver Company [L.]	1 8 6	—	—	12 0	—	—
6000 Bryntyll (tin), Perran	2 2 6	4 5	4 5	10 0 0	0 10 0	— March 26, 1857.	12000 Redmoor (copper and tin)	0 1 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
6000 Bwlch (silver-lead), Cardiganshire	3 8 6	1 1 6	1 1 6	8 2 6	0 2 6	— July 30, 1856.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
4000 Calstock Consols (copper)	5 0 0	4 5	4 5	0 2 6	0 2 6	— Dec. 29, 1857.	4500 Rhosydd Silver Company [L.]	1 8 6	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1000 Carn Bras (copper, tin), Illogan	15 0 0	50	49 5	210 10 0	2 0 0	— May 21, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
2048 Carnyorth (tin), St. Just	4 10 0	5 5	5 5	15 0 0	0 3 0	— June 16, 1856.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
2000 Cefn Cwm Brynwyd (lead), Cardiganshire	33 0 0	48	48	5 0 0	2 0 0	— March 26, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
2000 Collombe (copper), Llanerch	5 0 0	15	15	2 5 0	0 8 0	— Dec. 2, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
2000 Conduford (copper, tin), Camborne [S.E.]	29 0 0	85	85	85 0	2 0 0	— June 10, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1055 Craddock Moor (copper), St. Cleer	8 0 0	40	35 37%	1 9 0	0 5 0	— May 14, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
36000 Craven Moor, Limited (tin), Yorkshire	0 10 0	3 4	3 4	0 0 0	0 0 0	— Feb. 28, 1856.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
128 Cwmyntwith (lead), Cardiganshire*	60 0 0	200	200	125 0 0	5 0 0	— May 6, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
280 Derwent Mines (silver-lead), Durham	300 0 0	150	150	122 0 0	10 0	— June 25, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
4076 Devon and Cornwall (copper)	4 6 3	17	17	16 18	0 5 0	— April 5, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1024 Devon Great Consols (cop.), Tavistock [S.E.]	1 0 0	475	470 480	617 0	8 0 0	— May 21, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
672 Dinst Dong (tin), Guisborough	38 15 0	16	16	16	1 0	— March 2, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
179 Dolcoath (copper, tin), Camborne*	257 15 0	270	260 270	953 0	10 0	— April 12, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1280 Drona Walls (tin, copper), Calstock	1 19 0	1 1 6	1 1 6	0 13 6	0 2 0	— Sept. 11, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
300 East Daren (lead), Cardiganshire*	32 0 0	115	115 120	42 0 0	3 0 0	— April 15, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
204 East Falmouth (copper), Whitechurch	3 0 0	4	4	0 7 6	0 2 6	— June 25, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
128 East Pool (tin, copper), Pool, Illogan*	24 5 0	175	175	297 10 0	2 10 0	— Feb. 22, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1024 East Wheal Margaret (tin, copper)	7 17 6	6	5 5	0 5 0	0 5 0	— Jan. 3, 1854.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
5700 Exmouth (silver-lead), Christow	4 14 0	8	8	3 15 0	0 2 6	— April 27, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
4940 Fowey Consols (copper), Tywardreath	4 0 0	4	4	4 1 4	4 1 4	— Feb. 17, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
4448 General Mining Co. for Ireland (cop., lead)	4 0 0	9 6	9 6	2 1 6	1 0 8	— March 3, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
2000 Goginan (silver-lead), Cardiganshire	11 5 0	2 1 6	2 1 6	2 2 0	0 5 0	— Sept. 5, 1850.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1024 Gornemont (copper), St. Cleer	13 15 0	11	11	10 12 0	0 7 6	— Dec. 21, 1852.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
243 Grambler and St. Aubyn (copper)	109 10 0	115	114 116	10 0 0	3 0 0	— May 4, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
6900 Great South Tolton [S.E.]	0 14 6	14	14	14 15 14	2 1 6	— July 7, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
26666 Great Wheal Vor (tin, cop.), Helston [S.E.]	8 2 6	13	13	13 1 3	4 2 6	— Oct. 5, 1850.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
119 Great Work (tin), Germoe	100 0 0	100	100	221 10 0	7 10 0	— Feb. 27, 1857.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
1024 Herodsfoot (lead), near Liskeard	8 10 0	8 4	8 4	8 15 9	3 15 0	— June 28, 1858.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [L.]	2 0 0	—	—	12 0	—	—
6000 Hington Down Consols (copper), Calstock	3 10 0	5	5	16 2 6	2 16 0	— Nov. 26, 1856.	12000 Redhill Mining [L.]	10 0 0	—	—	5000 Rhosydd Silver Company [